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# Present Manchuria and Mongolia







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South Manchuria Railway Co.











**“PRESENT MANCHURIA  
&  
MONGOLIA”**

**1921**

**SOUTH MANCHURIA RAILWAY COMPANY  
DAIREN**

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# “PRESENT MANCHURIA AND MONGOLIA.”

*By the Industrial Office, the South Manchuria  
Railway Company, Dairen, Manchuria.*

## I. Geography.

**GEOGRAPHICAL SCOPE.** There is no definite boundary to the so called “Manchuria and Mongolia.” What are often referred to as Japan’s special privileges in Manchuria and Mongolia are embodied in the various Treaties, Protocols, etc., and actually allude to those in South Manchuria and the Eastern Part of Inner Mongolia.

In the present case, North Manchuria, in addition, which, with South Manchuria, comprises the three Eastern Provinces, viz., Fengtien, Kirin, and Heilungkiang Provinces, along with the Liao Valley and the Eastern Part of Inner Mongolia in the lower Nen Valley, are dealt with.

**ADMINISTRATIVE DISTRICTS.** Manchuria, as above stated, consists of the three Provinces of Fengtien, Kirin, and Heilungkiang, subdivided into the following minor districts :—

Fengtien into 3 Tao (District Superintendencies) and 57 prefectures ;

Kirin into 4 Tao (District Superintendencies) and 39 prefectures ;

Heilungkiang into 3 Tao (District Superintendencies) and 31 prefectures.

Each Province has a Tuchun (Military Commander) to administer the military affairs and a Governor to look after the administration. Under the Governor, there are Taoyin (District Superintendents) and Prefects. The real political power is, however, held by the Military Commander.

Eastern Mongolia is divided into the four Tribes of Chelimu, Chasakotu, Chaowuta, and Hsilinkuoerh, which four Tribes are subdivided into thirty clans, each having a chieftain at the head.

The Mongolians being originally nomads, the waste land in their country are being reclaimed by Chinese settlers.



**TOPOGRAPHY.** The eastern part of Manchuria is mountainous, and borders on the Russian Littoral Provinces and Chosen by the Ussuri, the Tumen, the Changpai Range, and the Yalu. On the west, the vast level plain of Mongolia stretches afar to the horizon, part thereof being walled by the Hingan Range. On the north, it adjoins the Russian Amur Province across the Amur, whilst on the South the Yellow Sea and the Gulf of Pechili wash its shores. For some distance, it borders on China proper partitioned by the Grand Wall.

The Mongolian plain has undulations and contains deserts and alkaline belts.

In the line of rivers, there are the Liao and the Sungari with their tributaries, in addition to the famous Yalu and Tumen, the Muling, etc. The Valleys of these rivers are fertile, highly suited to cultivation. Even in the hilly regions, there is no small space of land admitting of reclamation.

**AREAS AND POPULATION.** There are no ways of obtaining anything like accurate data about either land areas or population.

According to the recent estimate of the South Manchuria Railway Company, the areas and population of Manchuria and the Eastern Part of Mongolia are as under :—

|                                                                           | Area, square <i>ri</i> | Population |
|---------------------------------------------------------------------------|------------------------|------------|
| Fengtien Province ... ..                                                  | 15,151                 | 11,979,400 |
| Kirin Province... ..                                                      | 13,605                 | 5,638,700  |
| Heilungkiang Province ... ..                                              | 35,497                 | 2,494,000  |
| Eastern Part of Inner Mongolia ... ..                                     | 10,168                 | 4,366,000  |
| Total ... ..                                                              | 74,421                 | 24,478,100 |
| Remarks: 1 square <i>ri</i> is approximately $6\frac{1}{4}$ square miles. |                        |            |

The above shows that Manchuria and the Eastern Part of Inner Mongolia are far larger in area than Japan, but has only one-third the latter's population. The average density of population is 330 per square *ri*.

In Fengtien Province, the land under cultivation reaches 60% of the arable land, and it has the highest density of population.

Manchuria is inhabited by Manchus and Chinese, and Mongolia by Mongolians and Chinese settlers. Besides, there are 600,000 Koreans and about a dozen hundred Russians, in addition to 200,000 Japanese.

To North Manchuria and Inner Mongolia, Chinese farmers are immigrating in large numbers, and with the natural increase of population, the annual rate of increase is placed at between 400,000 and 500,000.



**CLIMATE.** The climate of Manchuria and the Eastern part of Inner Mongolia is what is called "continental" and have the extremes of heat and cold. People are apt to accept Manchuria as frigidly cold, often forgetting that its summer is intolerably hot. In summer, it is as hot in both South and North Manchuria as about Tokyo, Japan. This makes Manchuria a fine land for cultivation.

In rainfall, Manchuria has far less than Japan has. The average for Manchuria throughout the year is one-third of Japan's or about 600 millimetres, most of which is had in June, July, and August.

In the Mongolian plain, it is rather windy in spring. It may be regarded as a blessing by the farmers that no storm or torrential rain is known in autumn.

## II. History.

### Manchuria.

The first reference to Manchuria in history is made about the time of Chitzu. When Emperor Wu of the Chou Dynasty conquered Emperor Chou, the last of the Yin Dynasty, the victor, who founded the Chou Dynasty, made Chitzu, uncle of the vanquished monarch, King of Korea (now Chosen). In the face of conflicting opinions as to the boundaries of Korea, it is inferred that what is now known as South Manchuria was then included in the Korean Kingdom. In the "Reign of Terror" succeeding the fall of the Chou Dynasty, Manchuria was dominated by Yen which named it as Liao. In the Chin Dynasty founded on the ruins of the "Reign of Terror," Liao was divided into Eastern Liao and Western Liao, with the Liao making the boundary line. During the Han Dynasty, a prefectural government was established at Liaoyang. In the latter days of the Second Han, Kungsun established himself in Manchuria, which remained under the rule of his family for three generations. Gen. Su-mai, of the Wei Kingdom, laid low the Kungsons under his master's orders. Then, Manchuria passed under the domination of the Chin Kingdom. In 386-598, Kaokouli rose in the northeast and occupied Manchuria, but was invaded by the Tang emperors. Kaotsung of the Tang Dynasty brought the Kao's rule to an end, and opened a military government. The Chitan Prince then swooped down from the Upper Liao and took Manchuria, dividing it into three principalities and three districts. Then



the country was named Great Liao. The Chitan was subjugated by the Chin Princes, who were, in their turn, put down by the Yuan conquerors. The Yuan emperors divided Manchuria into seven districts, including Liaoyang, Kuangning, etc. The Yuan Dynasty lasted only a hundred odd years and was supplanted by the Ming Dynasty. The Manchu generals sprang into power at the foot of the Changpai Mountains near the Korean frontier and quickly had Manchuria under their control. It was by them that the name of Manchuria was given. In the



East Mausoleum near Mukden.

Manchu Dynasty, Manchuria was cut up into the three Provinces of Shengking, Kirin, and Heilungkiang, which were called the Three Eastern Provinces. These Provinces were held dear as the cradle of the reigning Dynasty.

It belongs to modern history how Manchuria practically passed into Muscovite hands, and has undergone the changes resulting from the Russo-Japanese War.

As late as the Ming Dynasty, all the territory north of Kaiyuan was inhabited by savage tribes, but now the country has been completely transformed into a land equipped with modern means of communications and also concomitants of civilization.

### Mongolia.

What is now called Mongolia used to be referred to in earlier times as the Barbarous Land in China. During the Chinese "Reign of Terror," (722-481 A. D.), the Mongols rose in power and planned an invasion southward. Consequently, the Chin Prince, conjointly with their neighbouring Princes of Yen and Chao, constructed a line of walls along the northern frontier, as a barrier to check



the southward advance of the Mongols. As the Chin Prince founded his dynasty on the ruins of the Chou Dynasty, the new Emperor led an army of 300,000 into Mongolia, and further, by extending the existing walls on the frontier, completed what is now styled the Great Wall.

During the Han Dynasty, the Moguls gained in strength. Emperor Wu vainly tried to drive them out. The Tang Dynasty, too, was frequently raided. As the Yuan Dynasty came into power, Genghis Khan, the Great conqueror, became the master of all China, and besides, invaded the Eastern Europe as far west as Hungary. It was the heyday of the Mongolian race.

In the Ming Dynasty, the descendants of Genghis Khan entered Mongolia, but failed to achieve much.

In the early stages of the Manchu Dynasty, they rebelled, but had to submit because of want of resources.

The Manchu Dynasty propagated Lamaism as a means of enervating the Mongolians, and this policy worked admirably. The Mongolians have lost in spirit and strength, and so chances for their edification have been let slip.

### III. Agriculture.

RAILWAY AND DEVELOPMENT OF AGRICULTURE. The climate of Manchuria and the Eastern Part of Inner Mongolia is adapted to agriculture. Its vast plain is covered with layers of loam, clay, and humus, rendering it one of the most fecund agricultural countries in the world.

The Chinese Eastern Railway, the South Manchuria Railway, and the Peking-Mukden Line of the Chinese Government Railways are carrying annually large numbers of immigrants and immense stocks of agricultural produce, quickening the development of agriculture in Manchuria in recent years.

Some people are found too often to jump to the wrong conception of Manchuria and the Eastern Part of Inner Mongolia to be only a broad expanse of raw, sterile plain.

LAND UNDER CULTIVATION AND NOT UNDER CULTIVATION. According to the recent investigations of the S. M. R. Co., the aggregate area under cultivation is about 39,100,000,000 *tsubo*. The portion for Manchuria is



32,510,400,000 *tsubo*, and that for the Eastern Part of Inner Mongolia some 7,692,000,000 *tsubo*. The arable land awaiting reclamation is put at about 30,000,000,000 *tsubo*, of which 80% lies in Heilungkiang Province. Then, what is reclaimed annually is supposed to range from 900,000,000 *tsubo* to 1,200,000,000 *tsubo*. (1 *tsubo* being equivalent to about four square feet).

The principal agricultural products are as follow:—

#### (a) Beans.

Beans may be classified into Yellow (Soya) Bean, Blue Beans, and Black Beans. In fact, there are altogether more than two hundred species of Beans.

Yellow (Soya) Beans belong to the most common species. They contain a good percentage of oil and are also good as an article of food and also for the expression of oil.

The Manchurian (Soya) Beans have become widely known all over the world.



Mountains of Beans in Changchun Station Yard.

Hitherto they used to be used by the Manchurian inhabitants as a food-stuff and for the expression of oil as a source of light. The residue left after oil was obtained served as a cattle feed.

Since the residue popularly known as Bean Cake came to

awake demand in Japan as fertilizer, and Bean Oil began to be exported to the Western countries as industrial material, a marvellous development has been noted in the cultivation of Soya Bean. This belongs to only a recent date.

Bean milling industry, too, has correspondingly grown up, and along the South Manchuria Railway Lines, and especially at Dairen, there are a large number of bean mills on a considerable scale. The Beans, Bean Cake, and Bean Oil



exported from the port of Dairen have reached 3,000,000 tons annually in recent years.

The Chinese not only use Beans and Bean Oil in their daily cooking, but also *tofu* (bean curd palatable also to the Western palate and pronounced by the qualified chemist as similar in its composition to cow's milk), *miso* (an article of the staple food to both Japanese and Chinese), and *soy* are also made from Beans.

Bean Oil exported to the West is understood to be refined as substitute for cottonseed oil, peanut oil, linseed oil, etc., and even for animal fat. It can be made into soap, oleomargarine, and paint. New utilities are being invented for Beans and Bean Oil.

Beans put out in Manchuria and Mongolia are put at about 20,000,000 *koku* (*1 koku being equivalent to 4.96 bushels*), but the outputs are increasing rapidly year by year, and there is a vast area of territory awaiting cultivation.

The analyses of Bean Oil at different spots in Manchuria are as under, the average of ten samples being given:—

| At               | Oil     | Water   |
|------------------|---------|---------|
| Harbin ... ..    | 17.77 % | 11.90 % |
| Changchun ... .. | 18.16 % | 10.27 % |
| Kaiyuan ... ..   | 18.14 % | 10.76 % |

Next, the results of analyses of Beans of different kinds are as follow, the average of several samples being given:—

| Beans                | Crude oil | Albumen | Carbohydrate |
|----------------------|-----------|---------|--------------|
| Yellow (Soya) ... .. | 11.78 %   | 16.92 % | 14.99 %      |
| Blue ... ..          | 37.32 %   | 37.62 % | 38.65 %      |
| Black ... ..         | 21.77 %   | 22.19 % | 26.06 %      |

### (b) Kaoliang.

Kaoliang is ubiquitous in Manchuria. It is grown most extensively and is the chief of the staple foodstuffs of the natives. For this reason, in North Manchuria, in which kaoliang is produced in less quantity than in South Manchuria (while the cultivation of wheat is incomparably larger), a restriction is put by common consent upon the amount of shumshu (a kind of alcoholic drink) distilled from the same cereal.

Kaoliang is first husked and cleaned before being cooked in the form of gruel or being boiled and then sun-dried. It is also used as fodder.



Recently, a Japanese resident at Dairen has hit upon a process by which a fair imitation of rice can be made from kaoliang in shape and taste.

As previously hinted, shumshu is distilled therefrom in large quantities.

The kaoliang stalk is used as fuel and a building material, and further matting is made therefrom. Its uses are varied as well as extensive.

The annual outputs of kaoliang are estimated at 36,000,000 *koku*.

#### (c) Italian Millet.

Italian millet, when cleaned, is

called *hsiaomi* (small rice) by the Chinese. Its importance ranks only next kaoliang. An intoxicant known as *huangchu* (yellow drink) is brewed therefrom. It has divers species, and the tallest grows as high as from 6 to 7 feet.

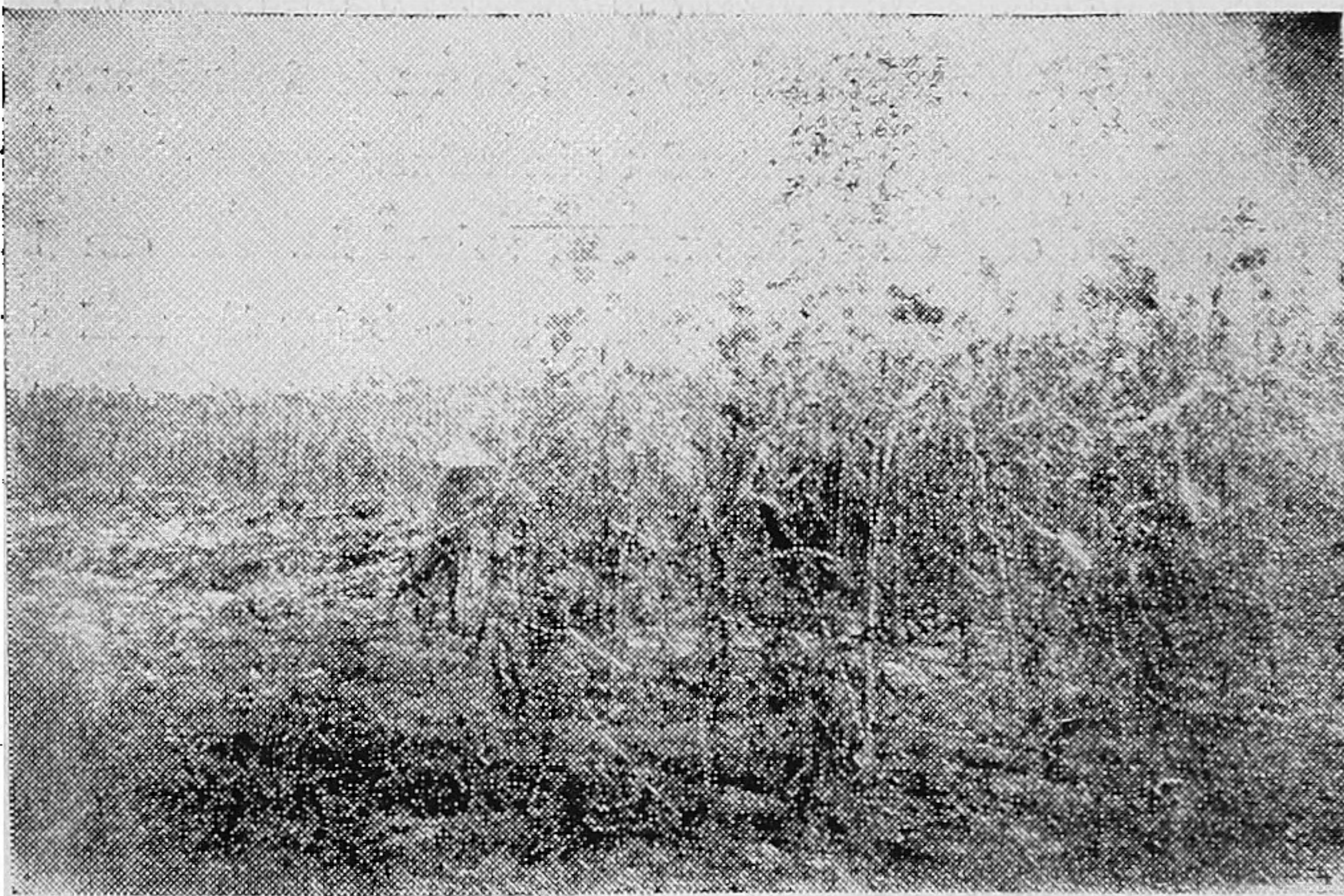
The millet straw supplies the chief fodder for the domestic cattle, whilst the millet bran serves as hog feed. On this account, the millet, too, is raised everywhere, its yearly production being placed at 30,000,000 *koku*.

#### (d) Maize.

Maize may be subdivided into three kinds—yellow, red, and a native breed called *laolaichou*. It is grown in the south of South Manchuria and also in part of North Manchuria and also forms an important article of food. In North Manchuria, an intoxicant is brewed from it. The stalks are used as an article of fuel whilst the leaves are good for fodder. The annual outputs are about 10,000,000 *koku*.

#### (e) Rice.

Rice is known as *tami* (large rice in distinction from *hsiaomi*, small rice or millet) among the Chinese. It is a valuable article of food too, to the Chinese,



Harvesting Kaoliang.



peasantry. Upland rice, which is grown on dry farms, is produced to the extent of about 3,000,000 *koku*, and ordinary rice raised on paddy fields to the extent of about 500,000 *koku*, in both cases unhulled. It may be mentioned that the growing of ordinary rice has been undertaken in Manchuria only in recent years, and is therefore still produced to an inconsiderable amount. However, both soil and climate are well suited to its cultivation. The



Threshing Kaoliang.

Korean settlers in Manchuria nearly monopolize the cultivation of this cereal. The amount of cultivation is expanding yearly at a rapid pace. The land area open to rice farming is estimated at 4,500,000,000 *tsubo*.

#### (f) Other Crops.

Among other agricultural crops popularly grown may be enumerated red beans kidney beans, millet, wheat, cock's shin, buckwheat, oats, potatoes, etc.

Next, as regards crops for special uses, hemp, flax, tobacco, sesamum, perilla, melon-seed, etc., are grown.

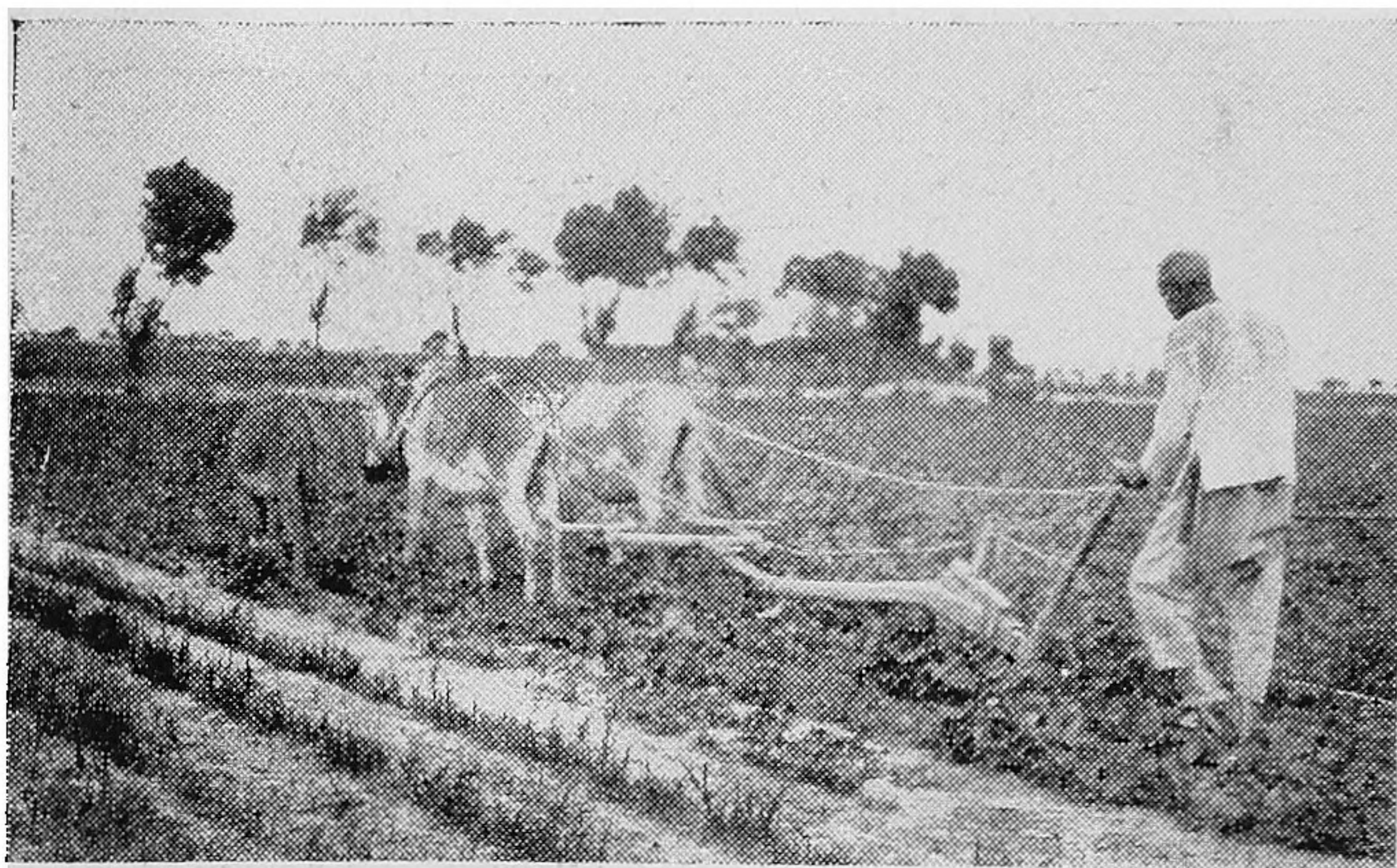
The hemp and flax crops are placed at some 40,000,000 *kin* (1 *kin* is 1.3 pound) a year. The tobacco is produced in Kirin Province to the annual amount of about 50,000,000 *kin*. Still, the supply being inadequate, about ¥6,000,000—7,000,000 worth is being imported yearly.

Next, turning to agricultural crops introduced lately, the sugar beet has been found to thrive excellently. The flax is looked upon in a similar light.

In the belt from the Kwantung Leased Territory up north to Mukden, the orchard industry is pronounced as promising. For instance, superior species of apples, pears, grapes, etc., are produced recently in increasing quantities.



**METHOD OF CULTIVATION.** Agriculture in Manchuria may appear crude to a casual eye, but when one looks deeper into its methods, one will easily find that what are in vogue are sensible devices adapted to climate and soil and developed through stages. In harrowing and ploughing, oxen, horses, and mules are employed to draw the ploughs and harrows, and rollers are brought to play in levelling work after the Western fashion. Domestic cattle are utilized to economize human labour, and in these respects, the Manchurian methods differ from the Japanese ways.



Cultivating Bean.

In fertilizing lines, droppings of the domestic animals and night soil are mixed with rich soil and are left in heaps, exposed to the weather for about three years. Chemical fertilizers still remain strangers to the native peasantry.

In dealing with the cereals, after they have been harvested, the grain is unhusked with the help of the domestic animals, and then it is packed in gunny or cotton bags to be carted to the market. The domestic animals are used also in cleaning the grain and in the home milling of flour.

Insects' ravages are considerable in some years, but the peasantry, whose heads are crammed with old superstitions, hold them as little sort of a visitation and little trouble themselves with their extermination or prevention. Luckily, the happy climatic effects of Manchuria act fatally upon these insects, and it is through this natural boon that their harm is not more serious.

**MANAGEMENT.** Farming is carried on by the land-owners and the tenants. The tenancy system may be divided into three kinds, ordinary, profit sharing, and contract plans. In extensive farming, in some cases, over 300,000 *tsubo* of land is looked after by one single family. Those attending from 60,000 *tsubo* to 150,000 *tsubo* of land each are rated as farmers of intermediate class. The petty



peasants have only 15,000-60,000 *tsubo* to till, and in many cases, not more than 4,000 or 6,000 *tsubo*.

In Manchuria, there is an element that is termed as farming hands who are helpers immigrating to Manchuria from Shantung, etc., which are more densely populated.

**AGRICULTURAL INSTALLATIONS.** In lines of agricultural installations, the Chinese authorities maintain agricultural experimental stations at Fengtien (Mukden), Kirin, and Tsitsihar.

The South Manchuria Railway Company, having recognized early the urgent necessity to improve and advance the agricultural methods in the development of Manchuria and Mongolia, has founded an experimental station at Kungchuling and Hsiungyocheng each at enormous outlay, and has been carrying on the investigation and experiments of agricultural methods, stock farming, and afforestation.



Agricultural Experimental Station, Hsiungyocheng.

An experimental station for the cultivation of the tobacco has been opened at Telissu between Wafangtien and Hsiungyocheng.

In addition, minor experimental stations are maintained at Chengchiatun on the Ssuping kai-Taonan Line of the Chinese Government Railways.

At the Kungchuling Station, such crops comparatively new in South Manchuria as sugar beets, tobacco, flax, etc., are being experimentally raised, while the improvement of the Bean breed has been receiving special attention. The Stock-farming Division has conceived the idea of improving the sheep breed, and incidentally the hog breed.

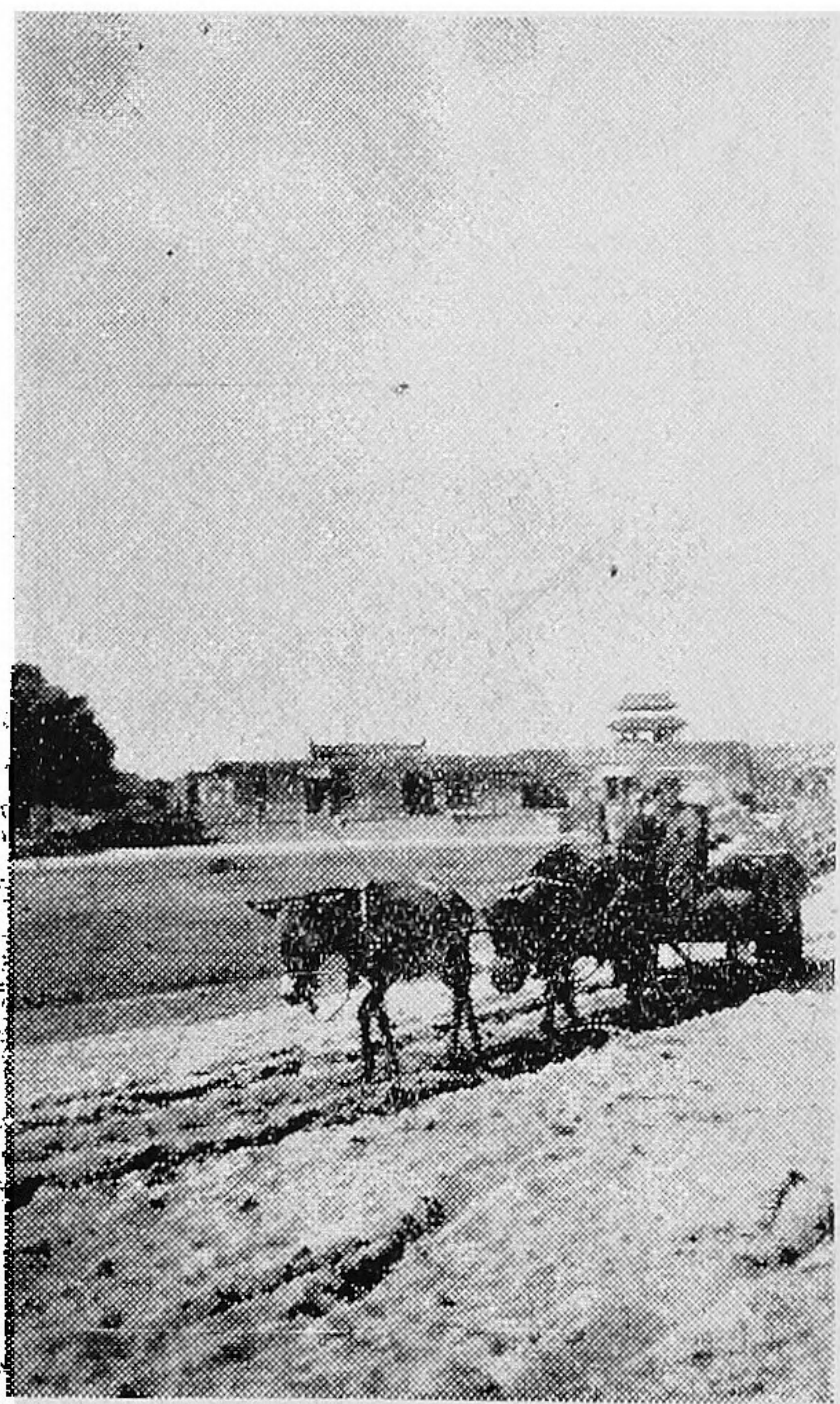


At the Hsiungyccheng Station, sericultural industry, fruit raising, horticulture, and afforestation have been studied.

These investigations and experiments are expected to bring in important results to the agricultural Manchuria.

#### IV. Stock-Farming.

**STOCK-FARMING COUNTRY.** The Japanese farmers are short even of cattle for use in the field. Therefore, Japanese agriculture is often referred to as "agriculture without animal help." In striking contrast with this state of things, in Manchuria, stock farming is indeed almost universal among the farming classes, and few farming houses are met with that do not keep at least three or four heads of cattle, horses, mules, etc., and some pigs and poultry, into the bargain.



Chinese Cart.

It may be said that the Chinese are not always more attached to stock-farming than the Japanese, but they beat the Japanese hollow in the knack of domesticating and training the domestic cattle. Five or six head of cattle, horses, mules, or donkeys are hitched up at random to a heavily-loaded cart, and this motley team is managed with admirable dexterity by a Chinese driver with the cracks of whip in hand.

As to the Mongolians, they are nomads, and the live stock serves as the only means of sustenance to them. In other words, they keep live stock consisting of cattle, horses, sheep, etc., and lead a nomadic life from place to place.

We shall now give a resume of the stock farming in Manchuria.

##### (a) Horses.

Manchuria and Mongolia are what has been referred to from old times in China as the finest horse breeding centre. The horses all belong to the Mongolian



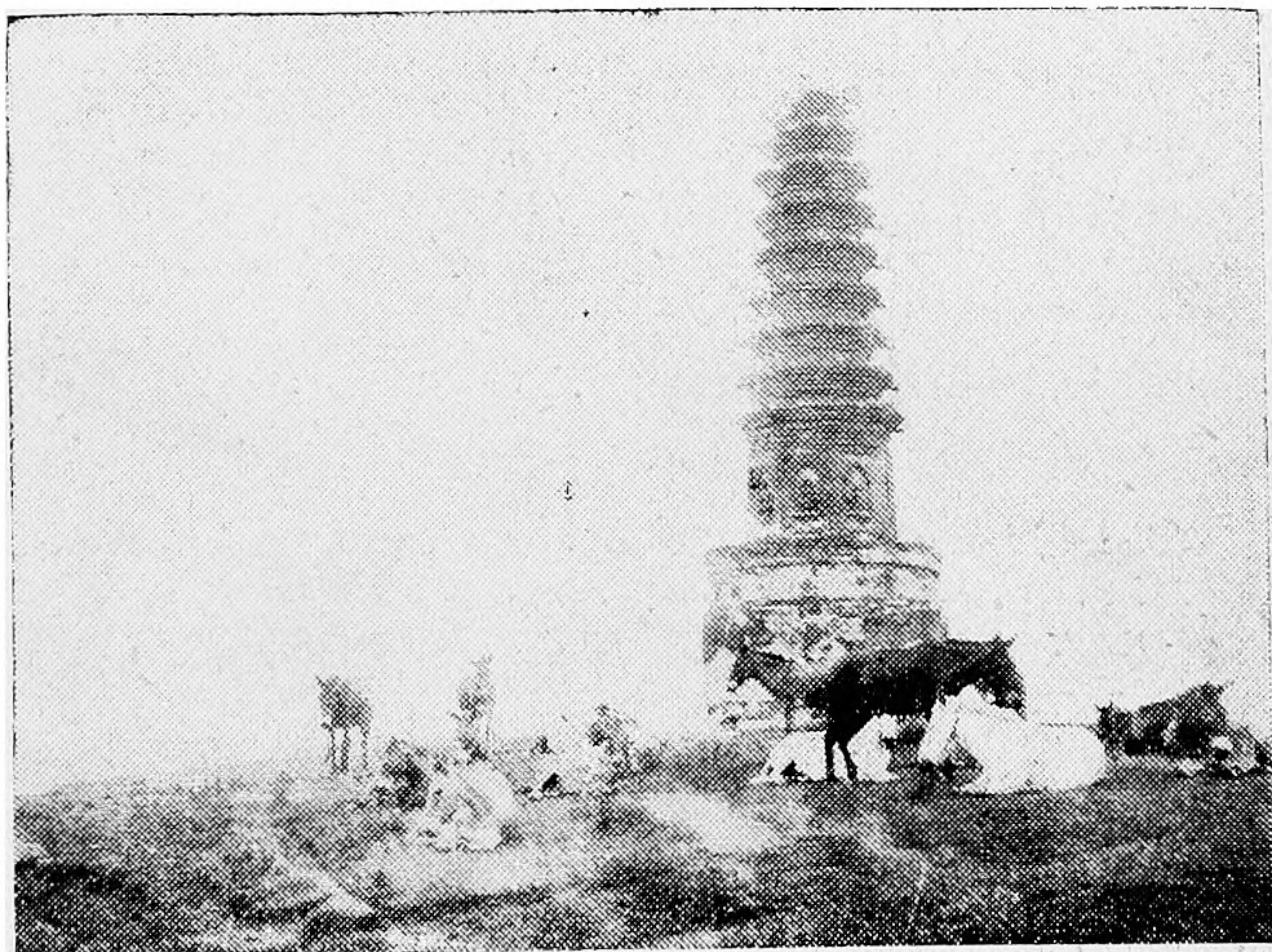
breeds. They stand  $4\frac{1}{4}$  ft. and 4.75 ft. long, weighing 583 lbs. on an average. They are rather undersized but well proportioned. They are built very strong and are used to coarse feed, neglect, and even exposure; moreover they have endurance to a wonderful degree. In ordinary circumstances, those that can pace are used for riding purposes, and the others as draught animals.

According to the latest returns prepared by the South Manchuria Railway Company, the horses in Manchuria and Inner Mongolia number about 2,500,000 head, comprising 750,000 head in Fengtien Province, 500,000 head in Kirin Province, 510,000 head in Heilungkiang Province, and 810,000 head in the Eastern Part of Inner Mongolia.

### (b) Mules.

The mule is [the cross breed between the she-donkey and the he-horse. It has existed in Europe and China from early times, but has been unknown in Japan. In size, the mule varies according to the sizes of its parent-animals, but is, in many cases, larger than the horse. This is because the he-donkey used for breeding purposes is what is known as the larger donkey, standing from 4 ft. 7 in. to over 5 ft.

The mule is employed in both farming and trans-



Mules grazing on Lungshou (Dragon's Head) Hill, Tiehling.

port. It has great endurance and is inured to hard labour of a long duration, ill-fed and ill-sheltered. It costs dearer than the horse.

There are 200,000 head thereof in Fengtien Province, 230,000 head in Kirin Province, 120,000 head in Heilungkiang Province, and 70,000 head in the Eastern Part of Inner Mongolia, totalling 630,000 head.



**(c) Donkeys.**

What belongs to the class of smaller donkeys is commonly kept in the native



Donkeys for transportation.

households. One stands only about 3 ft. It is strong of body and thrives on coarse feed. Its bearing strength is great for its size, and this makes it suited to agricultural, domestic, and transport uses. Some 500,000 head thereof are in South

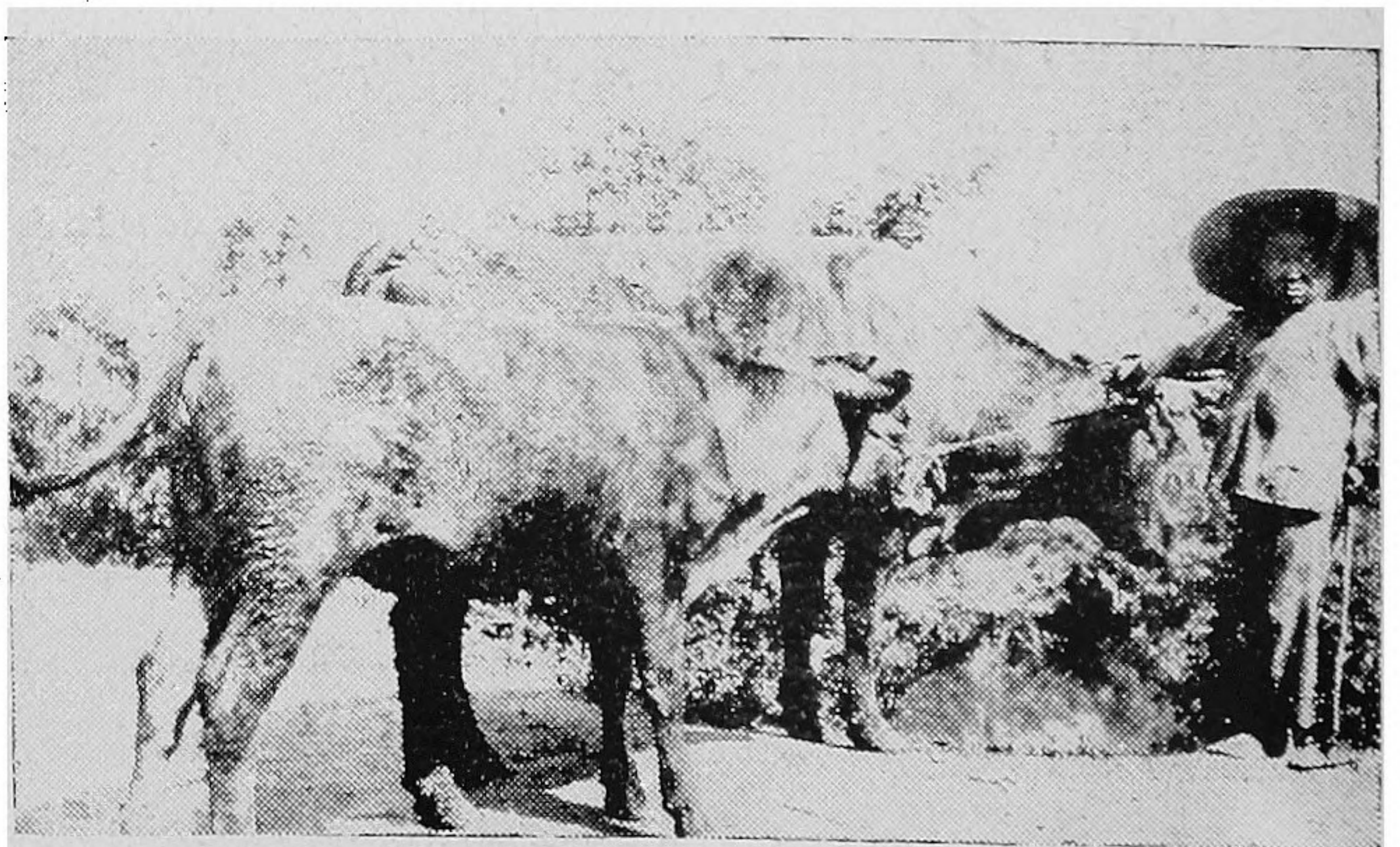
Manchuria and about 100,000 head more in the Eastern Part of Inner Mongolia.

**(d) Cattle.**

The cattle in South Manchuria, etc., belong to the Korean, Shantung, Manchurian, and Mongolian breeds. The first mentioned two breeds are comparatively small in number, the last mentioned two constituting the majority.

The Chinese keep cattle to work them, and the Mongolians for the milk they yield, the beef being regarded as bye-product.

The cattle in South Manchuria and Inner Mongolia are defectively developed in hinderpart and are rather inferior in all economic efficiency. But these



Mongolian Cow and Calf.



draw-backs are made up by their power of endurance and docility, and that of withstanding neglect and exposure, which qualifications all go to befit them for hard labour. In weight, the heaviest weighs 1,166 lbs., those weighing 666 lbs. being most common. Accordingly, they give a comparatively meagre amount of beef. In quality, the native breed is classed below the Korean and Shantung breeds, and gives only a stinted amount of milk. There is ample room for future improvement with the cattle as with the horse.

The cattle in Fengtien, Kirin, Heilungkiang, and the Eastern Part of Inner Mongolia are put at 580,000 head, 90,000 head, 210,000 head, and 1,120,000 head respectively, making the grand total of over 2,000,000 head.

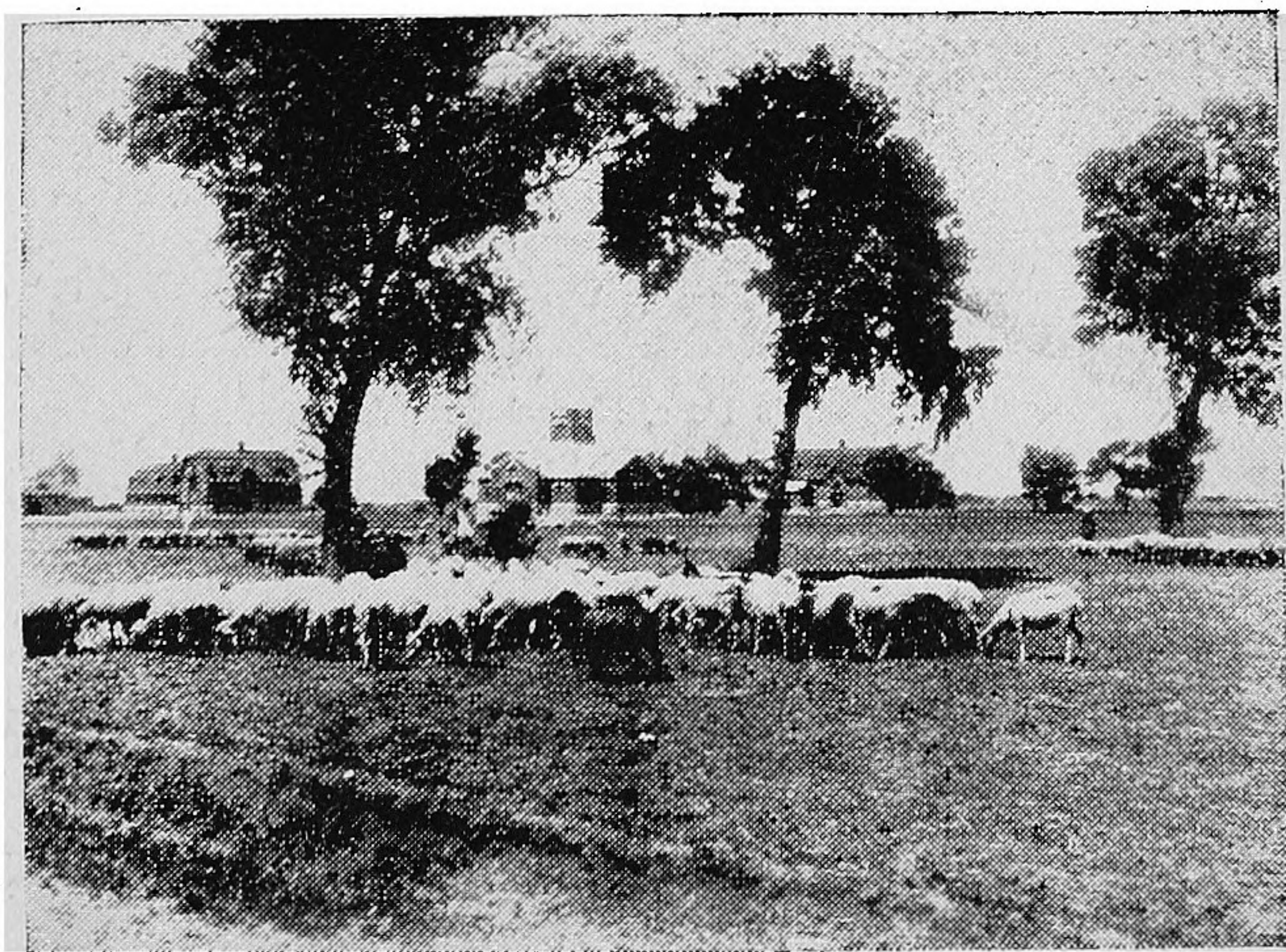
In the Eastern Part of Inner Mongolia, cowhides are put out in a considerable quantity, but owing to their poor quality and also the parasitic worm that eats out many holes in important parts, they have but an insignificant value.

#### (e) Camel.

The camel is found only in Mongolia. It is double-humped and stands  $5\frac{1}{2}$  ft. usually. It withstands the cold and is adapted to hard labour and is good to ride on. For this reason, it is an important medium of travel in Mongolia. Its number is put at about 4,000.

#### (f) Sheep and Goats.

The sheep and goats are of Mongolian breeds. Hitherto they have been raised chiefly for their meat and skins, and the wool have been regarded as but a by-product.



Sheep grazing (S. M. R. Co. Agricultural Experimental Station, Kungchuling).



The ewe weighs from 58 lbs. to 83 lbs.; the ram weighs about 125 lbs. at the outside. One of its characteristics lies in storing nutrition in the fat rump.

Goats are a little smaller in size than sheep. They yield only a small quantity of wool.

The sheep gives not more than 3 lbs. of wool each of a quality far from passable. Most of it has been exported to the United States.

On the other hand, the goats's hair is of finer quality, but is a matter of only a little more than 1 lb. per head.

With the recent development of woollen industry in Japan, both wool and goat's hair have begun to be exported to Japan in a considerable quantity.

In South Manchuria, goat-raising takes precedence of sheep farming among the Chinese. In Mongolia, the natives attach the highest importance to sheep-



Interior of Sheep's Pens, Kungchuling Agricultural Experimental Station.

raising. In both cases, more or less mixed farming is in vogue. To the Chinese, sheep-and goat-raising is only a secondary occupation, but to the Mongolians, live stock forms the principal property asset and the chief item of sustenance.

Judging by the outputs of wool and goat's hair, both sheep and goats combined are put at 400,000 head, 100,000 head, 60,000 head, and 2,000,000 head in Fengtien, Kirin, and Heilungkiang Provinces and the Eastern Part of Inner Mongolia respectively, making the total of 2,660,000 head.

Seen from the traditional aims of sheep- and goat-farming more for the sake of the meat than for the wool, no improvement seems necessary, but since the greater utility of wool than the meat itself became more widely known, the benefit of a systematic improvement on scientific lines has come to be noted more keenly.



## (g) Pigs.

Pork is accepted by common consent by the Chinese as the most palatable. Hogs are kept at every farm house from a few to a dozen head. The grounds and waste put out from the shumshu distilleries, flour mills, bean curd manufacturers, etc., are used for pig-feed.

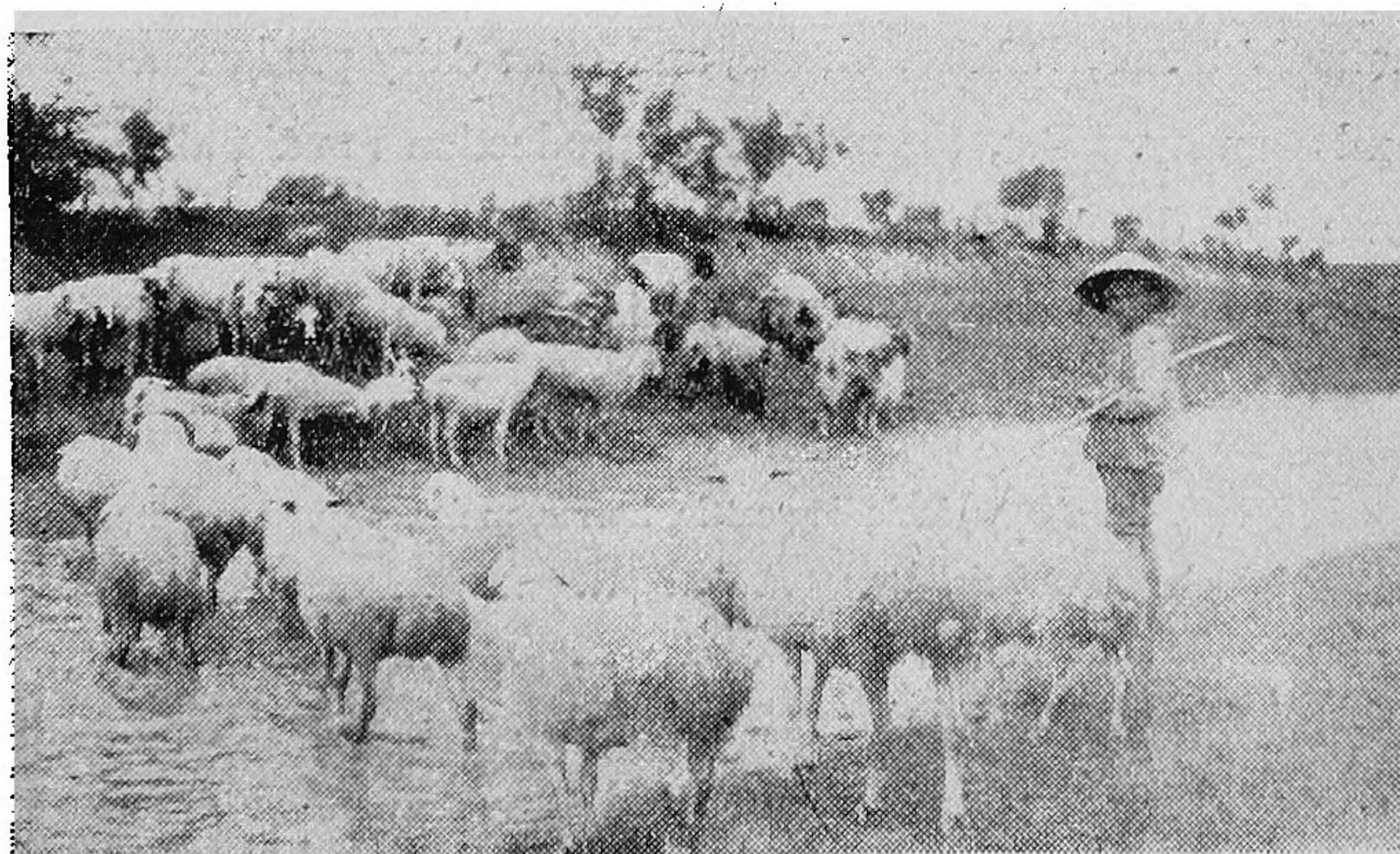
A rough calculation of the total number of pigs names 3,550,000 head for Fengtien Province, 1,250,000 head for Kirin Province, 490,000 head for Heilungkiang Province, and roughly 1,000,000 head for the Eastern Parts of Inner Mongolia, the grand total being placed in the neighbourhood of 6,290,000 head.

In Manchuria, there are three classes of the pig. One kind is larger-sized and weighs some 292 lbs. when  $2\frac{1}{2}$  years old; another kind grows to weigh 150 lbs. when a year old, and is known as smaller-sized; the other is medium-sized. Each kind breeds fast, and brings forth a litter of young numbering from ten to twenty at a time. The pig's hair is coarse and long and is known as bristle, being a product of no mean importance. Bristle is exported abroad to be made into brushes. Most of it goes to Osaka, Japan.

**HOW DOMESTIC ANIMALS ARE TENDED.** As stated previously, the domestic animals raised by the natives receive but a nominal amount of attention. Cattle other than milch cows, horses, and mules are kept either in roughly-made sheds or in the open yard. Millet straw is generally used for feed and is often given, mixed with maize stalks, straw, bean stems, and grass. For richer feed, kaoliang, bean cake, wheat bran, etc., are added.

The Mongolians never build stalls or other shelter for their domestic animals, but leave them to look after themselves.

Some Chinese furnish shelter, but seldom provide for bedding.



Sheep grazing on Manchurian meadow.



Pigs kept by the Chinese farmers are let loose in the day-time, and are put in the pen at night. The sight of lively pigs frisking after feed in the field after the crops have been harvested is one of the quiet rustic scenes in Manchuria. In winter, pigs are sometimes fed on hay laid by for them, but in the majority of cases, they are left to themselves to pick up feed.

The Mongolians seek lowlands in summer for water for their sheep, and in



Hay harvested at Kungchuling Agricultural Experimental Station.

winter get behind the hills for shelter from the piercing wind.

The sheep's skins clothe the Mongolians; their milk and meat serve as staple foodstuffs; and the wool is used to cover the huts and keep off the

draught. Sheep to the Mongolians supply clothe, food, and shelter.

**EXPORTS OF STOCK-FARMING PRODUCTS.** As already stated, Manchuria and Mongolia abound in domestic animals, and wool, hides and leather, animals' bones, bristles, cheese, and other dairy products are put out in a great variety and quantity. But, the methods of production remain all primitive and none of them have yet developed beyond the stage of a domestic industry. There is plenty of room for future development in this direction.

The following are the exports from Manchuria during 1920:—

|                                                                             | Tael    |
|-----------------------------------------------------------------------------|---------|
| Domestic animals, including cattle, horses, mules, pigs, sheep, etc. ... .. | 464,154 |
| Wool, goats' hair, etc. ... ..                                              | 293,442 |
| Bristle and horses' hair ... ..                                             | 273,349 |
| Leather and hides and manufactures ... ..                                   | 983,866 |
| Eggs ... ..                                                                 | 591,446 |
| Animal oils ... ..                                                          | 113,973 |
| Animal's bones ... ..                                                       | 166,311 |



## V. Forestry.

**DISPOSITION OF FORESTS.** In South Manchuria, the foot of the Changpai Mountains along the upper reaches of the Sungari, the Mutan, and the Tumen, and also the upper parts of the Yalu and the Hun are densely wooded; while in North Manchuria, the districts about Hailin on the Eastern Section (between Harbin and Pogradichnaya) of the Chinese Eastern Railway and about Sansing in Kirin Province are the principal forest lands.

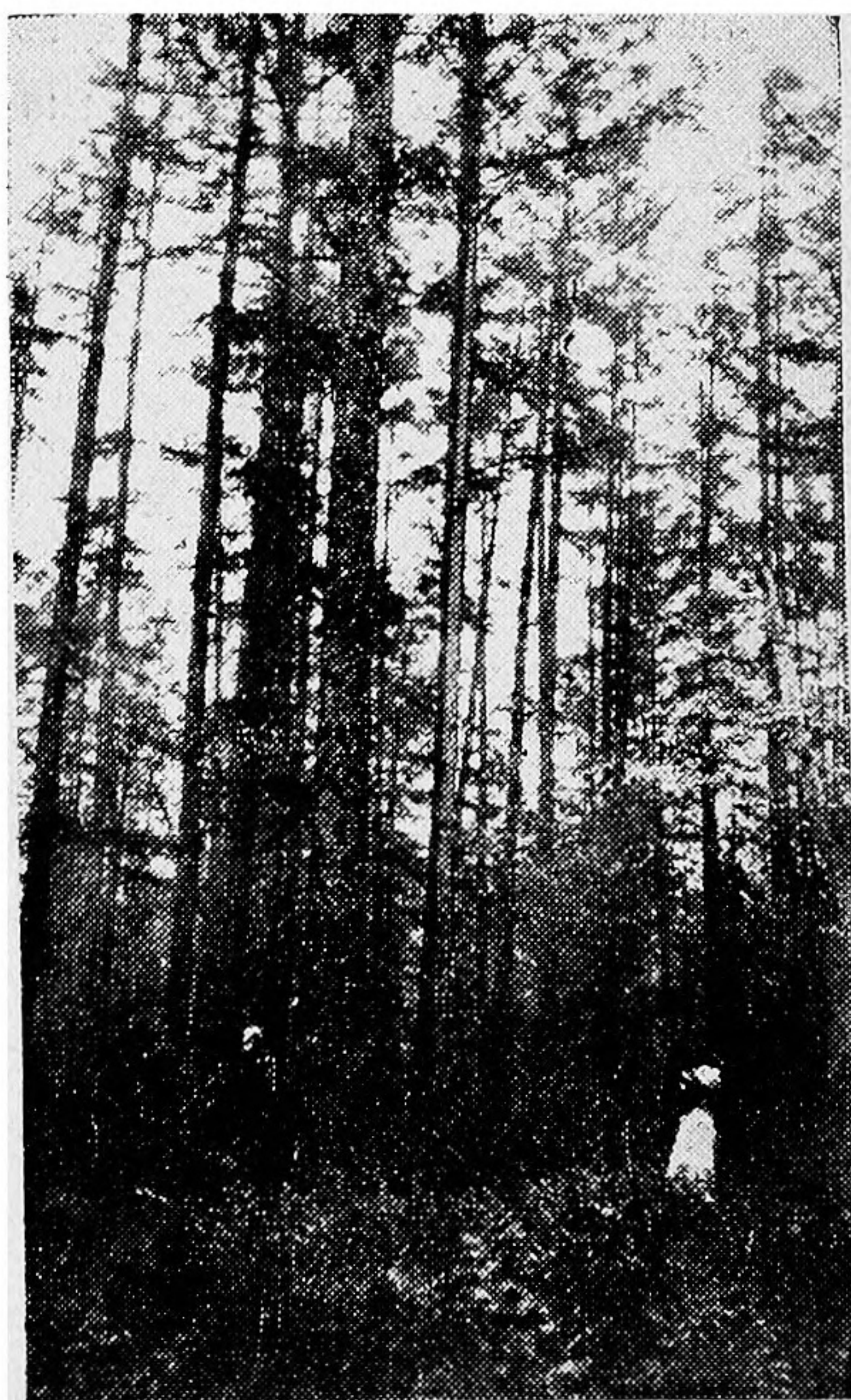
On the other hand, Mongolia is a vast plain consisting of level land grown with grass and dotted with dunes. Nothing like a forest can be seen. Only amongst the Hingan Range and the Yinshan Range, there are believed to be some forests worth tapping, but no definite data are obtainable.

**PRINCIPAL KINDS OF TREES AND THEIR PERCENTAGES.** So far about 300 kinds of trees are known in Manchuria and Mongolia, but the principal kinds number about twenty.

All the forests and woods being natural ones, the percentages of the different kinds of trees are subject to variance, but the conifers and the broad-leaved trees may be approximately placed at the respective rates of 40% and 60%.

Of the conifers, the *L. d. var. principis-rupprechtii* R. et W. takes up the major portion; the *A. nephrolepis*, the *P. hon-doensis* Mayr., and kindred kinds 30%, the minor remainder being divided among the rest.

Of the broad-leaved trees, the *Q. Fabri* Hance, Mongolian oak, *T. Koreana* Nakai, elm, poplar, and their kindreds occupy some 70%, the walnut, *Phellodendron amurense* Rupr., and such like being found in a meagre quantity.



Larch Forest in Mengkiang Prefecture,  
Kirin Province,



In the forests of the Hingan Range in the west of Heilungkiang Province and in the north of Mongolia, the *L. d. var. principis-rupprechtii* R. et W., *P. silvestris* L., and *B. japonica* Sieb. (*B. alba* L. var. *vulgaris* D. C.), predominate, and there are found only few kinds of superior trees.

**FOREST AREAS AND ASSETS.** In absence of reliable data, nothing definite can be set down, but from all reports available, the forest areas and their assets in Manchuria for 1918 may be roughly as follow:—

- a) On the right bank of the Yalu and along the Hun River; 2,004,000,000 *tsubo* with 347,655,000 *koku* of timber, @ 520 *koku* per 9,000 *tsubo*.
- b) On the upper parts of the Sungari, the Mutan, and the Tumen excluding such localities as have only a few hundred *koku* of timber (according to the investigations of the S. M. R. Co.); 5,892,000,000 *tsubo* with 1,315,519,000 *koku* of timber, @ 670 *koku* per 9,000 *tsubo*.
- c) Along the Eastern Section (between Harbin and Pogradichnaya); 7,305,000,000 *tsubo* with 924,696,000 *koku* of timber, @ 380 *koku* per 9,000 *tsubo*.
- d) About Sansing district; 15,873,000,000 *tsubo* with 2,618,602,000 *koku*, @ 495 *koku* per 9,000 *tsubo*.
- e) As to the forests in and about the Hingan Range, no data can be obtained, except that in the district within the radius of about 30 miles around Horgo and Hingan Stations for the centres, the average timber asset is put at about 450 *koku* per 9,000 *tsubo*.

Remarks: 1 *koku* is equivalent to 20 cubic feet.

**TIMBER INDUSTRY.** The timber industry of Manchuria and Mongolia may be practically merged into the felling and utilizing of conifers. A great deal is



Forest of broad leaved trees in Mengkiang Prefecture,  
Kirin Province.

exported Tientsin way as building material, but what is used for making coffins goes up to a considerable amount.

As to the utility of broad-leaved trees, they are used for railway sleepers, mine timber, and firewood, and for the making of charcoal, and little of them is employed for other industrial purposes.



As timber markets, Kirin and Antung come foremost, followed by such consuming centres as Harbin, Changchun, Fengtien (Mukden), Dairen, etc. At Antung the Yalu Timber Company under Sino-Japanese joint management is located.

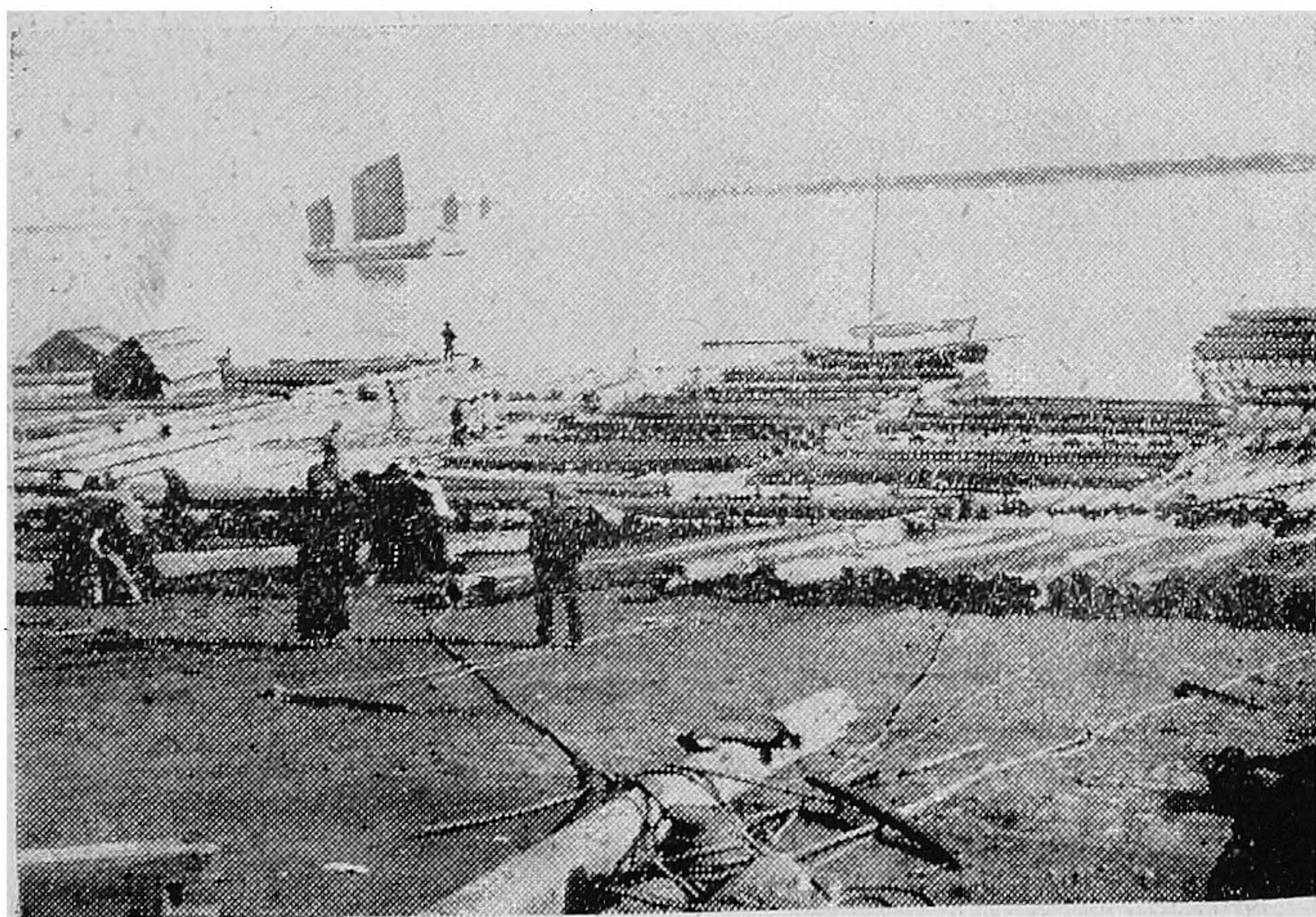
Kirin has been a well-known timber centre from old times. At present there are divers Japanese and Chinese organizations engaged in putting out timber.



Rafts on the Sungari, near Harbin.

Next, along the Eastern Section of the Chinese Eastern Railway, the Railway Management and Russians and Chinese have had railway sidings built to their lumber yards and are carrying on timber industry, including the operation of saw mills.

With regard to transportation, both Kirin and Yalu timbers are carried down



Timber Landing at Antung on the Yalu.

the Rivers, whilst North Manchurian outputs are transported by railway. North Manchurian timber is usually 21 ft. in length, and Kirin timber is rafted down the stream in logs, the usual lengths being 15 ft. and 24 ft. As regards Antung

lumber, ordinarily it is rafted down with two sides thereof stripped of the bark and roughly 16 ft. and 24 ft. lengths are most common.



**TIMBER DEALERS.** In Dairen the leading timber dealers include the Mitsui Bussan Kaisha, Ryoto Timber Co., Yamaha Yoko, Dairen Timber Co., Kwantung Timber Co., the Branch of the Akita Shokai, etc.

There are at Fengtien (Mukden) the branch of the Yalu Seizai (Saw Mill) Co. that of the Akita Shokai, the Mitsui Timber Yard, etc.

The chief dealers at Changchun include the Manchuria Timber Co., Changchun Saw Mill, etc.

At Kirin, there are the Mitsui Bussan Kaisha, Kirin Timber Co., the branch of Yalu Saw Mill, etc.

At Antung, there are, in addition to the Yalu Timber Co., Yalu Saw Mill, East Asia Timber Co., Antung Saw Mill, Antung Timber Co., etc.

**FORESTS AND THEIR POLITICAL BEARINGS.** In order to attend to the affairs concerning the forests, the Provincial Government of Manchuria have each the Board of Forestry which issues laws, regulations, etc. However, the forestry adminis-



Rafts on the Yalu, near Antung.

tration exists only in name, and forest fires, reckless disforestation, illicit disforestation, etc., occur in succession, and the depletion of the forests is growing worse year after year. It is partially because of the inadequacy of the Chinese police

force and the bold operations of the brigandage, which render the steady exploitation of the forestry assets impossible. The high taxation in force on the forests, which are looked upon by the Government as an elastic source of revenue, is also answerable for the yearly deforestation in a measure.



Apart from the Kwantung Leased Territory, all along the South Manchuria Railways, the hills have become bared of trees for the most part. This is highly regrettable not only from a forestry point of view, but from several other considerations.

Only, it is gratifying to hear that the question of afforestation is beginning to interest the Chinese officialdom and people as well.

The South Manchuria Railway Company has been distributing gratis yearly saplings of different kinds to the Chinese applicants.

## VI. Marine Products.

The Kwantung Leased Territory has only short coast lines. Still the Yellow Sea and the Gulf of Pechili abound in fish of all kinds, and fishery industry is being carried on on an extensive scale.

However, outside the Kwantung Leased Territory, there are no reliable statistics available.

The more important kinds of marine products found in the Kwantung coast waters include following :—

*Tai*, cod, sword fish, *guchi*, *sawara*, sole, flounders, *suzuki*, shark, *nibe*, sardines, *shirasu*, cattlefish, octopi, sea-slug, oysters, earfish, prawns, lobsters, crabs, whales, seals, etc.

FISHERMEN IN KWANTUNG LEASED TERRITORY. The fishermen in the Kwantung Leased Territory are either Japanese or Chinese. The Japanese fishermen come from such Prefectures in Japanese as Yehime, Kumamoto, Kagawa, Oita, Hiroshima, Okayama, etc. They usually come over from Japan in spring and go home late in autumn. There are about 200 odd fishing boats with some 1,500 fishermen, against about 16,000 Chinese fishermen.

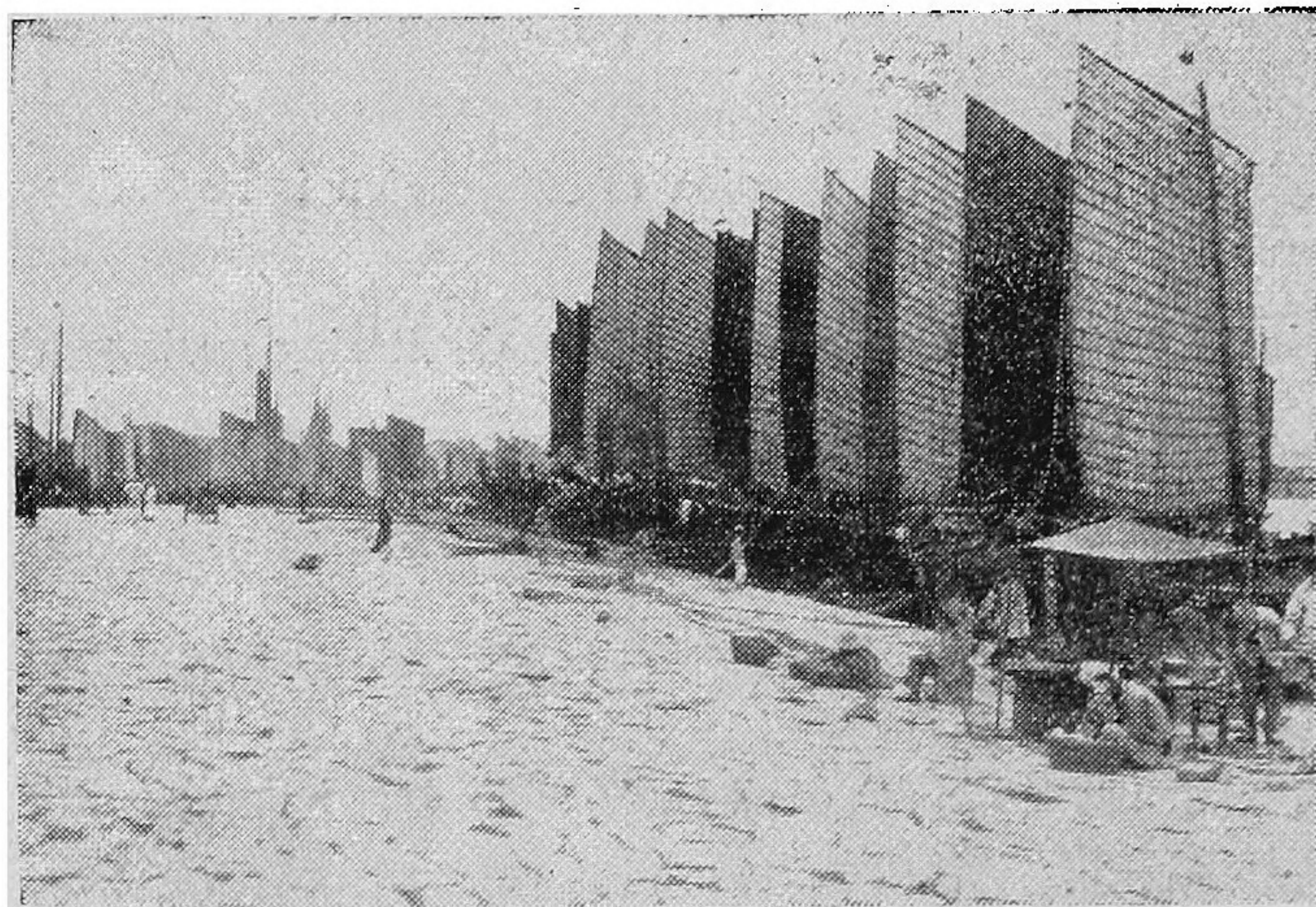
The chief hauls made by the Japanese are *tai*, and those by the Chinese are cod, *guchi*, and swordfish.

The following are the figures for the past three years :—

|            | lbs.       |            |
|------------|------------|------------|
| 1917... .. | 25,135,150 | ¥1,187,755 |
| 1918... .. | 25,631,675 | 1,617,493  |
| 1919... .. | 26,995,575 | 2,550,924  |
| 1920... .. | 3,769,757  | 1,935,252  |



The whale-fishery about Haiyangtao Island, near which the naval battle took place in the Sino Japanese War, is undertaken almost exclusively by the Oriental



Junk Wharves, Dairen.

Whale Fishery Co. Few Chinese are interested therein. The catches are forwarded Shimonoseki way. Seals are captured on the ice-floes when the ice in the coast-waters break up on the return of spring in the north of the Yellow Sea and also

in the north of the Gulf of Pechili. The annual hauls range between 700 and 800 head, and sometimes over 1,000 head.

**MARINE PRODUCT INDUSTRY.** The marine product industry still toddles in its infancy. Cod, *guchi*, mackerel, *nibe*, flounders, etc., are salted, and sea-slug, ear-fish, jelly-fish, shell-ligament, etc., are subjected to some preservation process by the Chinese. Some Japanese are turning out dried cod, and also working upon *tai* fish, but neither is worth mentioning.

**FRESH WATER FISHERY.** The rivers, lakes, and other bodies of water inland also abound with fresh water fish.

In the Yalu, the part about Antung affords a good fishing ground. In the Sungari, the parts about Wulakai on the Upper reaches, about Sanchiakou, and farther below about Sansing are the most fruitful grounds. The lake in Hulun is one of the newest grounds.

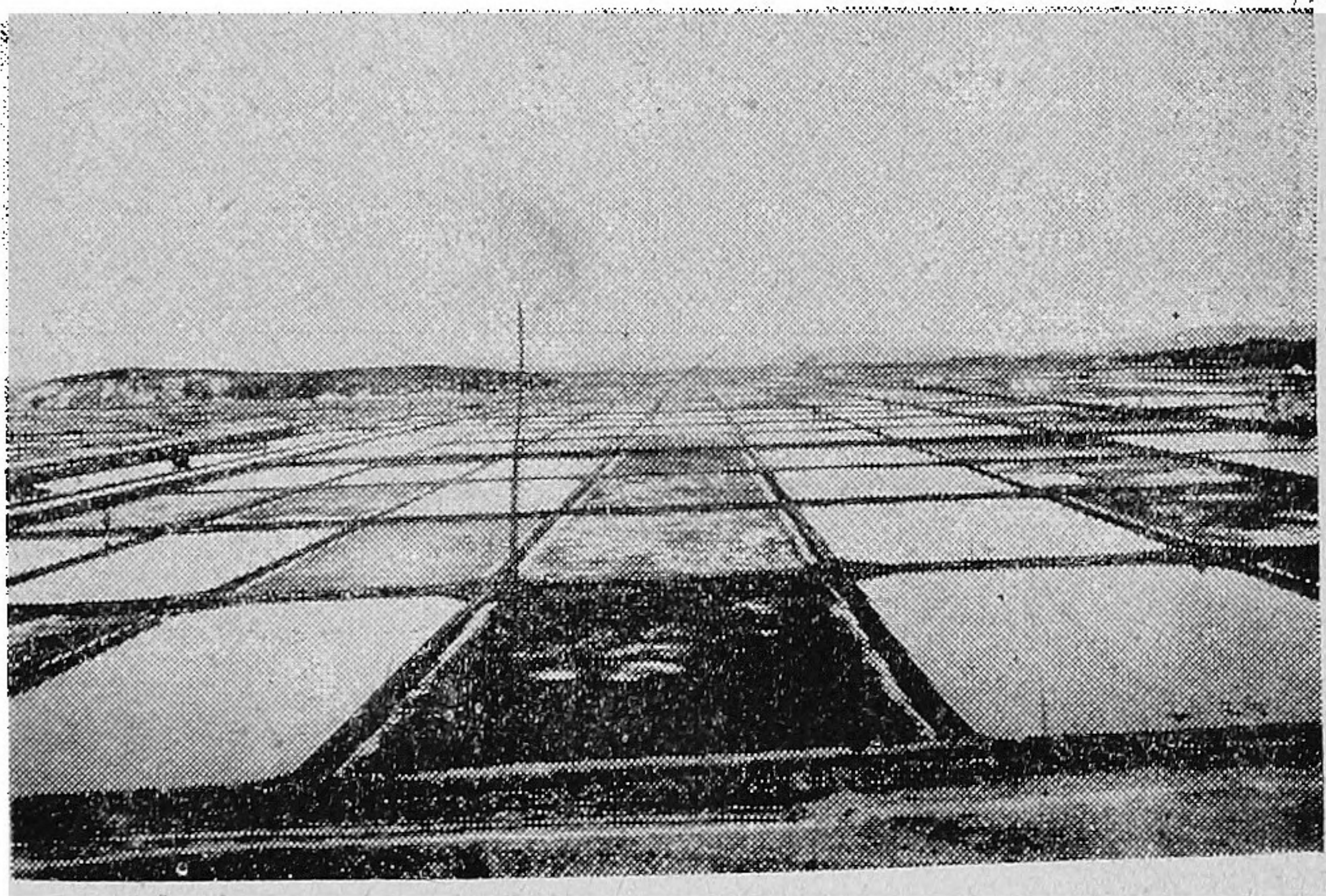
Among the fresh water fish, the carp, gibel, trout, salmon, wels, *suzuki*, *tanago*, *yamame*, *higai*, river-shark, etc., may be counted.

In summer, the catches are carried to the market, and in winter, they are forwarded even into the interior of Siberia.



The main and branch streams of the Sungari are known as pearl grounds, and a good deal is still being put out.

**SALT INDUSTRY.** Over the Yellow Sea and the Gulf of Pechili, there is little rain and the evaporation process goes on actively. Therefore, the sea water is brinier, and salt manufacture is conducted very extensively along the sea coasts. Along those of Yingkou, Kaiping, and Fuchou, the salt gardens under management of Chinese Government and private parties lie in almost an unbroken line. The sea water is put in the salt gardens by making use of the tide and wind-mills, and is left to evaporation by the sun. Salt industry is conducted vigorously also in the Kwantung Leased Territory. The yearly outputs vary according to years, but are



Salt Fields, Pulantien.

placed at about 3,000,000 *koku*, of which about 700,000 or 800,000 *koku* is put out in the Leased Territory.

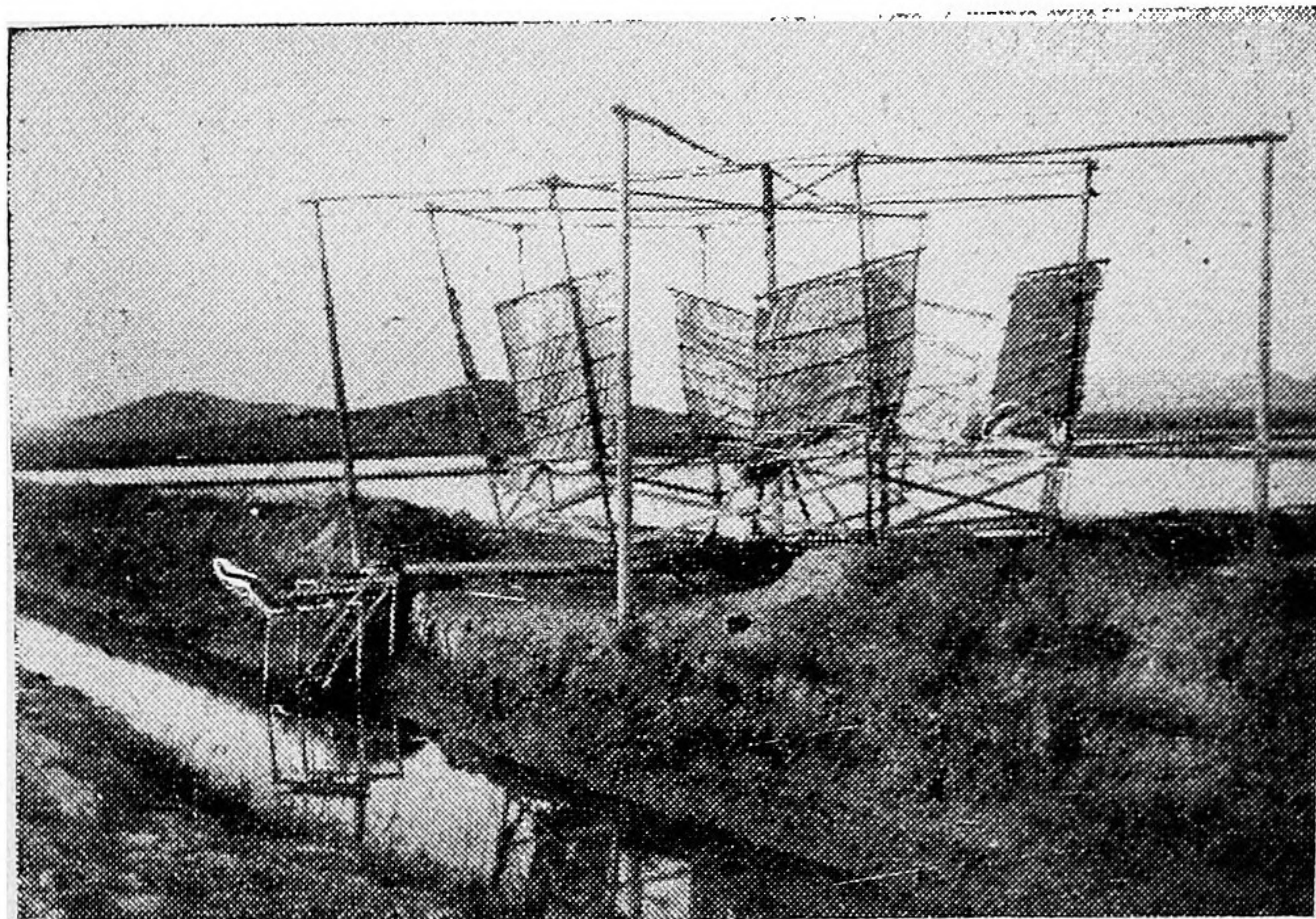
Salt belongs to the monopoly of the Chinese Government. The salt monopoly system is not unified all over China, but is more or less different according to Provinces. In the three Eastern Provinces, the system is fashioned much after the Japanese system.

The Government buys salt manufactured along the sea coasts and sends it to different centres to sell it at the specified price. This system is comparatively well-organized.

The import of no salt produced outside Manchuria is permissible into Manchuria. Smuggling is liable to severe punishment. Salt produced in Manchuria is debarred from export, except to Mongolia and the Jehol district.



In the Kwantung Leased Territory, the area suited to salt manufacture is



Wind Mill at Salt Fields, Pulantien.

estimated at about 2,400,000 *tsubo*, of which only one-half is now operated.

The Japan Salt Manufacturing Co., the Oriental Development Co., etc., are actively interested.

When the export of Kwantung salt to Japan and

Chosen increases, the outlook of the Kwantung salt industry will appear more promising.

## VII. Industry.

**RAPID GROWTH OF JAPANESE INDUSTRIES.** Manchuria is richly endowed by nature with vast possibilities in agriculture, stock-farming, forestry, mineral products including fuel, and other industrial materials. Still, owing to the infantile stage of the Chinese in industrial or technical lines, there are few industries worthy of the name outside oil-expressing, flour-milling, and shumshu-distilling. Even as to daily necessities, the majority of them have had to be imported from abroad or South Manchuria.

However, as the sphere of the Japanese activities has expanded in recent years, the abundance of raw materials and fuel (coal) and cheap labour have been turned to most account, and it has resulted in the establishment of a long list of industries, and thus the dawn of an industrial colony seems to be breaking on the Kwantung Leased Territory.

**CHEMICAL INDUSTRY.** Chemical industry, because of any supply of coal lying at hand and also because of the cheap electric power from the Mond Gas Producer's Plants being available, appears destined to thrive at and about Fushun.



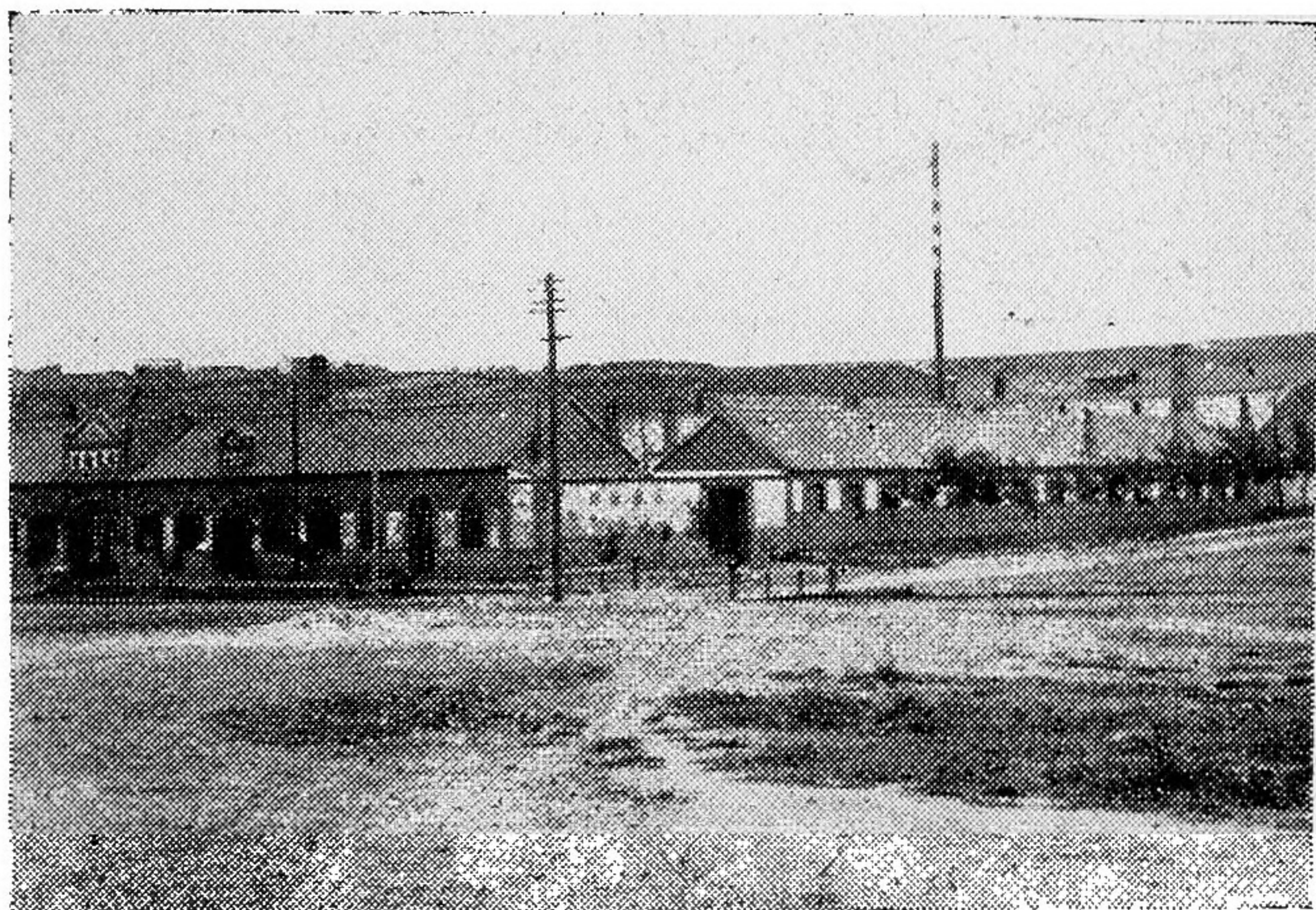
Actually, at the Sulphate of Ammonia Factory attached to the Mond Gas Producer's Plant under management of the South Manchuria Railway Company, calcium carbide, calcium cyanide, sulphate of ammonia, etc., are being put out in considerable quantities.

At Dairen, there are the Electro-Metallurgical Co., Manchuria Barium Industry Co. and Solite Manufacturing Co. (for the manufacture of solite, a paint made from Soya Beans).

At Antung, there is the Manchuria Blasting Powder Factory.

It is a pity that, despite the repeated experiments made for the production of soda from the plentiful Kwantung salt, the proposition has not yet assumed a tangible shape.

In lines of Oil and fat industry, the Dairen Oil & Fat Industry Co. is turning out hardened oil, etc., from Soya Bean Oil, the Manchuria & Mongolia Development Co. dealing in gelatine, animal oils, and vegetable oils.



Chinese Bean Mills, Dairen.

In addition, the Manchuria Paint Co. is also located at Dairen.

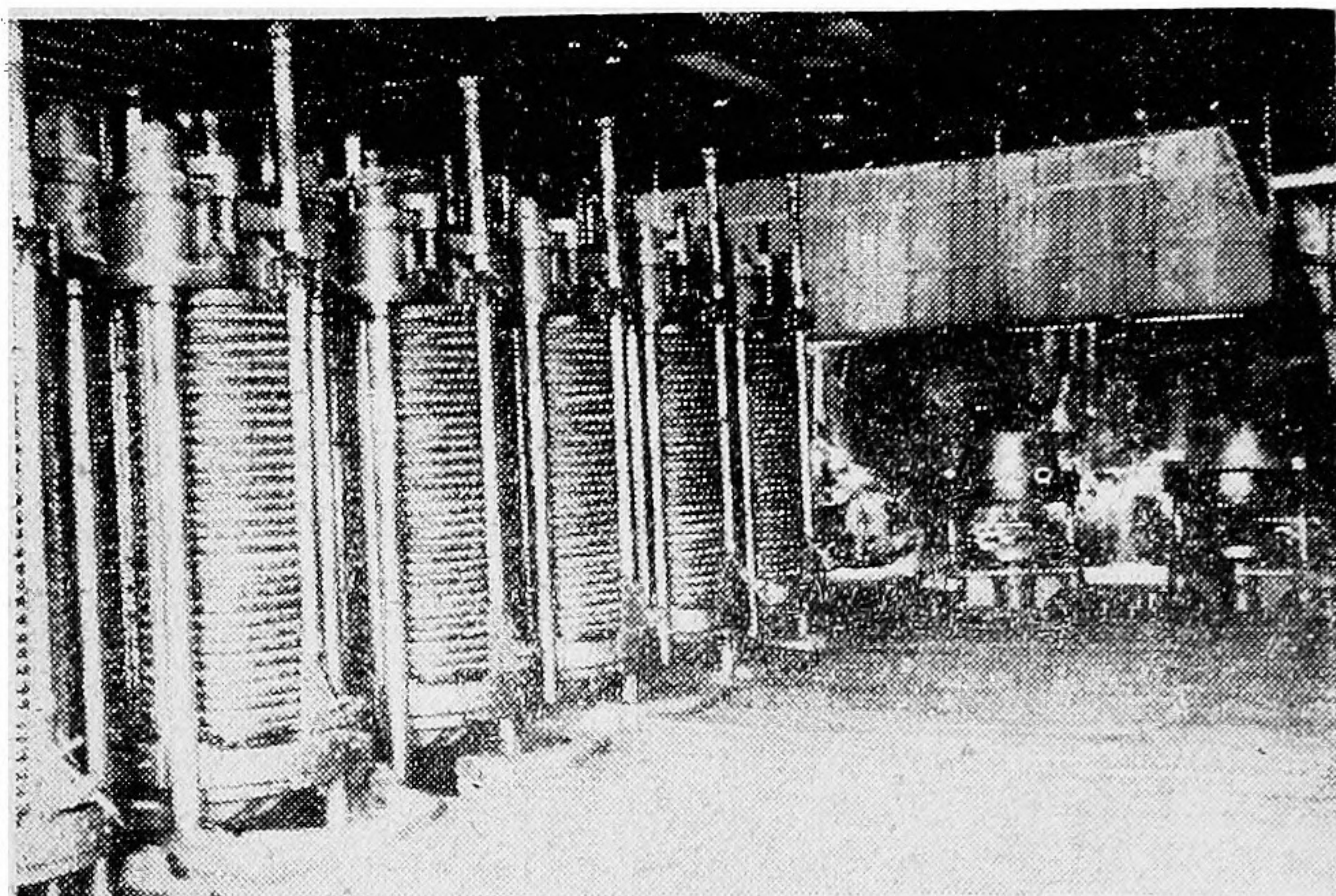
**MANUFACTURING INDUSTRY.** Bean milling ranks foremost in manufacturing industry. Bean Oil is indispensable to the Chinese as a food and for cooking. Bean milling is best developed at Dairen, which is now possessed of sixty mills. In the interior of the country, the old primitive system by which a few head of mules or donkeys and a few hands do the work of expressing oil from Beans is still found in vogue. Such is only a domestic bye-industry.

However, such extensive mills as use steam engines and express oil by hydraulic pressure are mostly found at Dairen. The Suzuki Bean Mill at Dairen is operated on the chemical extraction system which is the latest scientific method.



The round-shaped cake left after the expression of oil weighs 46 *kin* a piece, which is the standard weight for export cake.

In the fiscal year 1919, 19,693,000 piculs valued at 43,029,000 *Hk. taels* were exported to Japan.



Interior of Bean Mill (Beans under pressure), Dairen.

Bean Meal, which is put out at the Suzuki Mill, is good for use as it is.

Bean Cake is used by the Chinese for cattle-feed, and by the Japanese as fertilizer.

It contains a good percentage of

nutriment sufficient to be made a food-stuff, and so the idea of converting Bean Cake into an article of food should not be poohpoohed at as a fool's vagary.

The total outputs of the bean mills along the South Manchuria Railways in the fiscal year 1919 are placed at about 1,462,000 tons worth ¥99,800,000 in Bean Cake, and 151,000 tons worth ¥22,650,000 in Bean Oil.

Bean Oil chiefly serves as material for the making of soap, oleomargarine, and paints in the United States.

Bean Cake is exported principally to Japan.

Distilling industry comes next in importance to bean milling in Manchuria. The liquors used by the Chinese in Manchuria are chiefly *shumshu* (distilled from kaoliang) and *huangchiu* (fermented from millet). *Shumshu* is the most popular drink and bears a slight resemblance to whisky.

Fengtien (Mukden) and Liaoyang and their vicinities are the centres for *shumshu* distillation, although distilleries lie scattered all over the country. The aggregate yearly output of *shumshu* is estimated at ¥13,000,000, and no inconsiderable amount is exported to China.

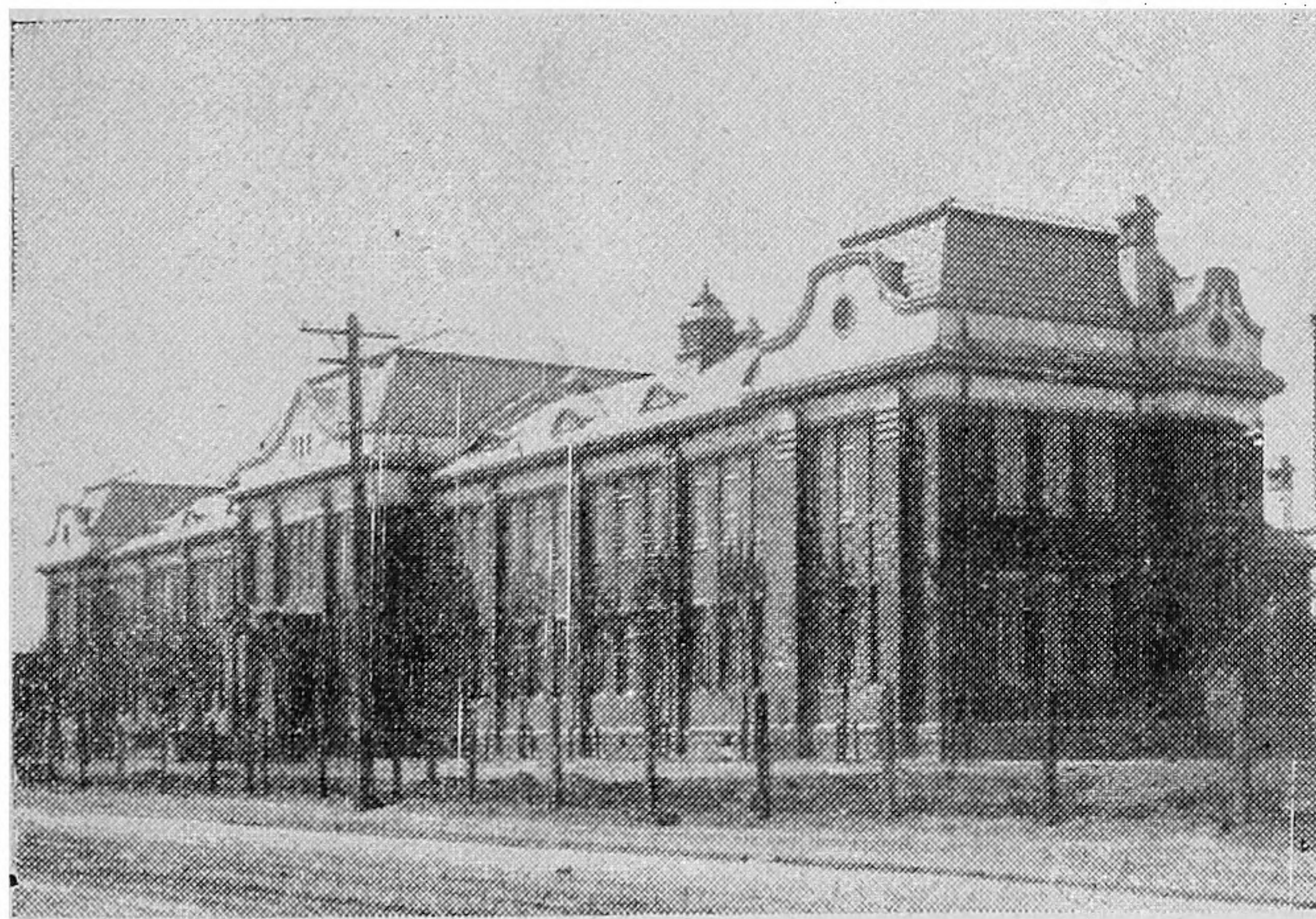


Recently there have been quite a number of people starting the manufacture of *sake* (a Japanese drink fermented from *sake*), *miso* an article of food, a necessary adjunct to breakfast in Japan which is made of beans, salt, and *koji* (fermented rice), and *soy*. Japanese made *soy* is superior to the Chinese made article in quality, and is believed to grow in demand amongst the Chinese.



Beans stored in matting bins.

The S. M. R. Co. General Laboratory has invented an improved process of fermentation, and also how to manufacture calcium lactate from the grounds of *kao-liang* left after *shumshu* has been distilled.



S. M. R. Co. General Laboratory, Dairen.

Next, ceramic industry is still another indigenous enterprise that holds out a good promise. Manchurian soil is suited to ceramic industry. There are the Continenal Ceramic Factory at Fengtien (Mukden), the Asia Ceramic Factory at Kung-

chuling, the East Asia Brick Kiln at Dairen, and the Branch Kiln of the Yingkou Brick Kiln at Choushuitzu, in addition to like plants of more or less

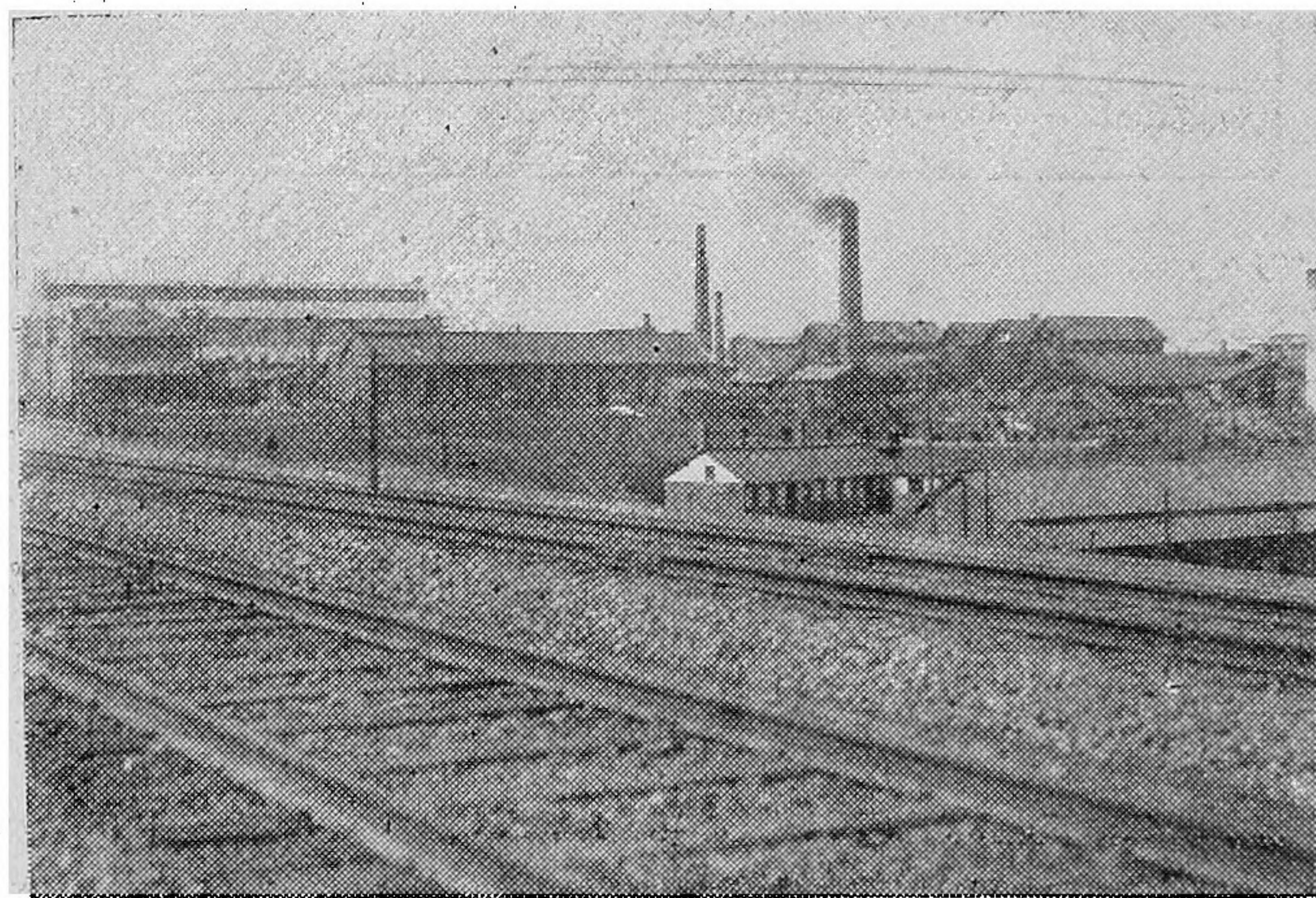


scale at Anshan, Kaiyuan, Changchun, Antung, Liaoyang, Ryojun (Port Arthur), etc. Most of these put out bricks and fire bricks. There are further numberless Chinese bricks Kiln of modest scope.

South Manchuria, especially the Kwantung Leased Territory, abounds in limestone, material for cement.

The Onoda Cement Factory and the Dolomite Cement Co. are at Choushui-tzu close to Dairen, and also a cement company is at Fengtien (Mukden). These factories have been doing prosperous business as the Railway towns along the S. M. M. Co. Lines have grown at a good pace.

As plenty of silicious rock is found to be glass making material, there are at Dairen, in addition to the S. M. R. Co. Ceramic Experimental Institute, the East Asia Glass Factory and the Dairen Glass Co.



Ceramic Experimental Institute, S. M. R. Co., Dairen.

The utilities of glass and glass ware are not yet universally known among the Chinese inhabitants of Manchuria, but their manufacture is promising.

For instance, the Ceramic Experimental Institute above mentioned as achieved satisfactory success in the manufacture of windowpanes and hollow ware both in quality and as a business venture, and before long a glass manufacturing company will be organized on an extensive scale under private management.

In addition, with the war time boon in iron foundry business, the Dairen Crucible Manufacturing Co. was brought into being.

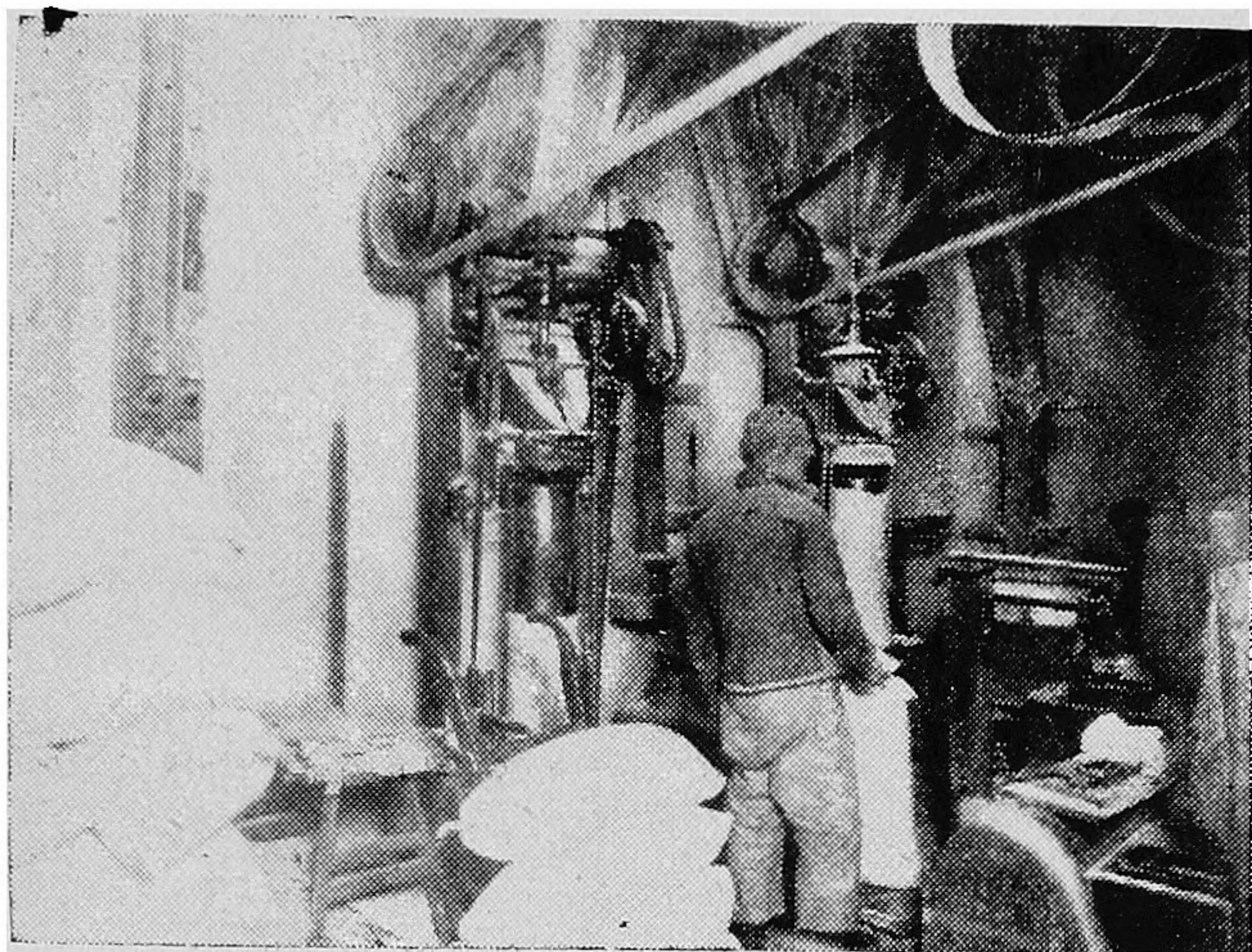
Then, pottery business is still another line of industry that promises to pay.

The Pottery Division which belonged to the Ceramic Experimental Institute was transferred to the China Ceramic Co. on October 1, 1920.



Among those engaged in gathering clay and other raw material, there are the Japan-Manchuria Pottery Co., Manchuria Pottery Co., etc.

Wulakai in Kirin Province has enjoyed the name of a fine pottery centre from old times.



Packing Room, the Tienhsingfu (Chinese Flour Mill), Changchun.

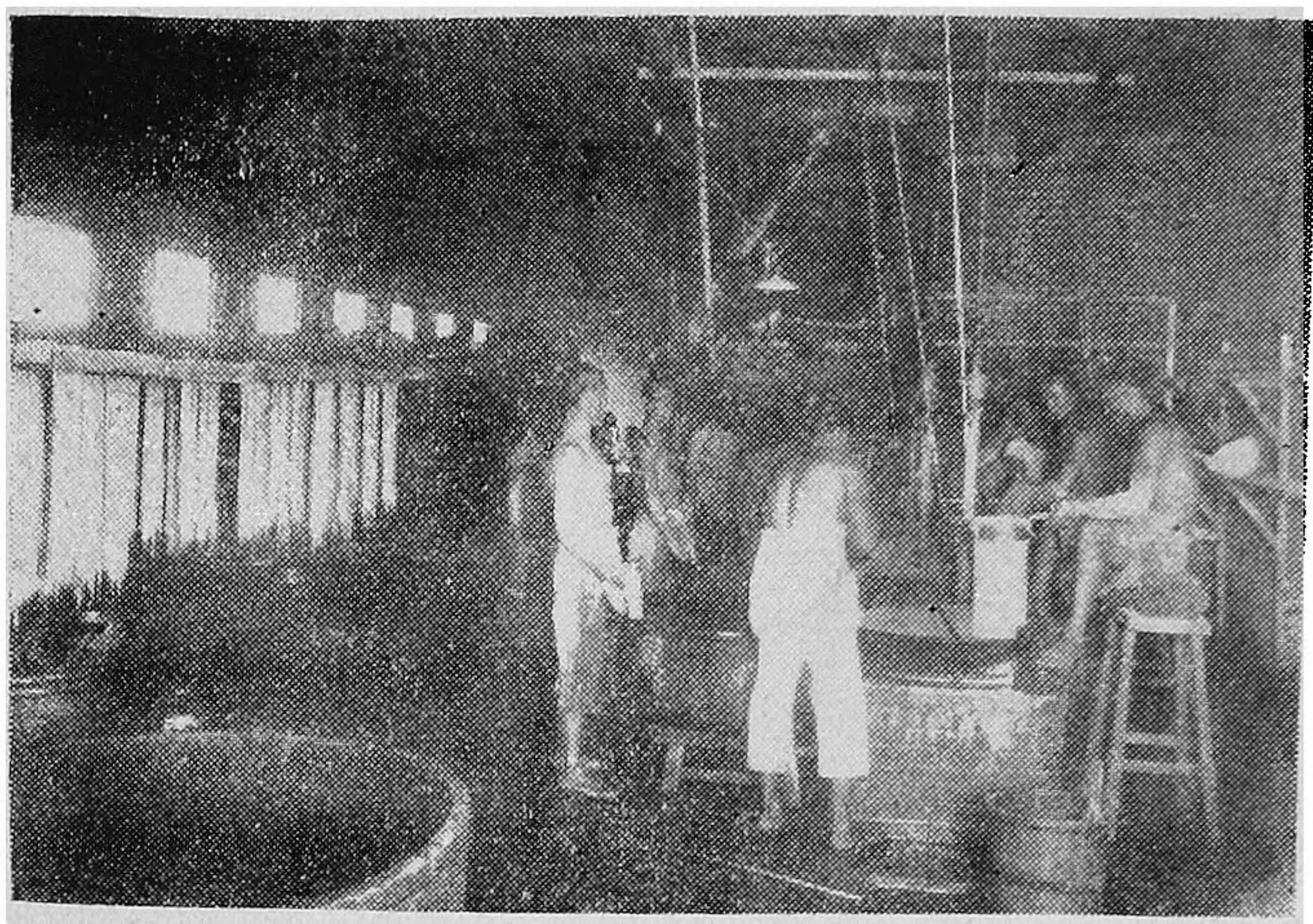
#### AGRICULTURAL INDUSTRY. The

chief among the industries, in which agricultural products are worked upon, may be mentioned flour milling. Since there is little wheat obtainable in South Manchuria, it has been developed in North Manchuria with Harbin for its centre. What are designated home mills employ crude simple millstones worked by from two to ten hands with the help of from a couple to a dozen donkeys. The average daily wheat consumption is from 1 *koku* to 4 *koku*. Such home mills are met with at every turn.

Flour mills planned on an extensive modern scale in South Manchuria have come into existence under Japanese management since the close of the Russo-Japanese War. The Manchuria Flour Mill at Tiehling was the first of the kind to be founded. Branch plants were opened subsequently at Changchun and Fengtien (Mukden). The Yuchangyuan Mill followed at Changchun. Another large mill is to be established at Kaiyuan under Sino-Japanese management. The Chinese, too, have founded a factory at Kirin. In addition, the Sino-Japanese Flour Mill, Ltd., has been organized lately. It has mills at both Dairen and Changchun.

In North Manchuria, most of the mills are owned by Russians and Chinese. The North Manchuria Flour Mill, Ltd., was the only Japanese concern existing at Harbin, but, it was amalgamated with the Manchuria Flour Mill Co. towards the end of 1920.





Interior of Bean Noodle Factory, Dairen.

North Manchuria puts out wheat in large quantities, and moreover a new extensive tract of land for wheat cultivation is being added annually. Flour milling is certainly one of the most important ventures, and its products are estimated at ¥15,000,000 a year.

Farther, Manchuria gives an abundance of green beans, kaoliang, maize, etc., from which starch is obtained, but somehow nobody has yet been able to build up a profitable business in this line. Among the Chinese, what is termed as bean noodles is made from Green Beans.

Recently, the Dairen Starch Factory has been formed at Dairen, and the Manchuria Starch Co. at Ryojun (Port Arthur).

In Chientao (about which much diplomatic fuss has been raised), starch is made from potatoes.

Since there is a large demand for bean noodles in South China and the South Seas, a factory has been brought into being under Japanese management in the suburbs of Dairen under the style of the Sino-Japanese Bean Noodle Co.

In order to contribute to the solution of the food-stuff problem



East Asia Tobacco Co. Yingkou.



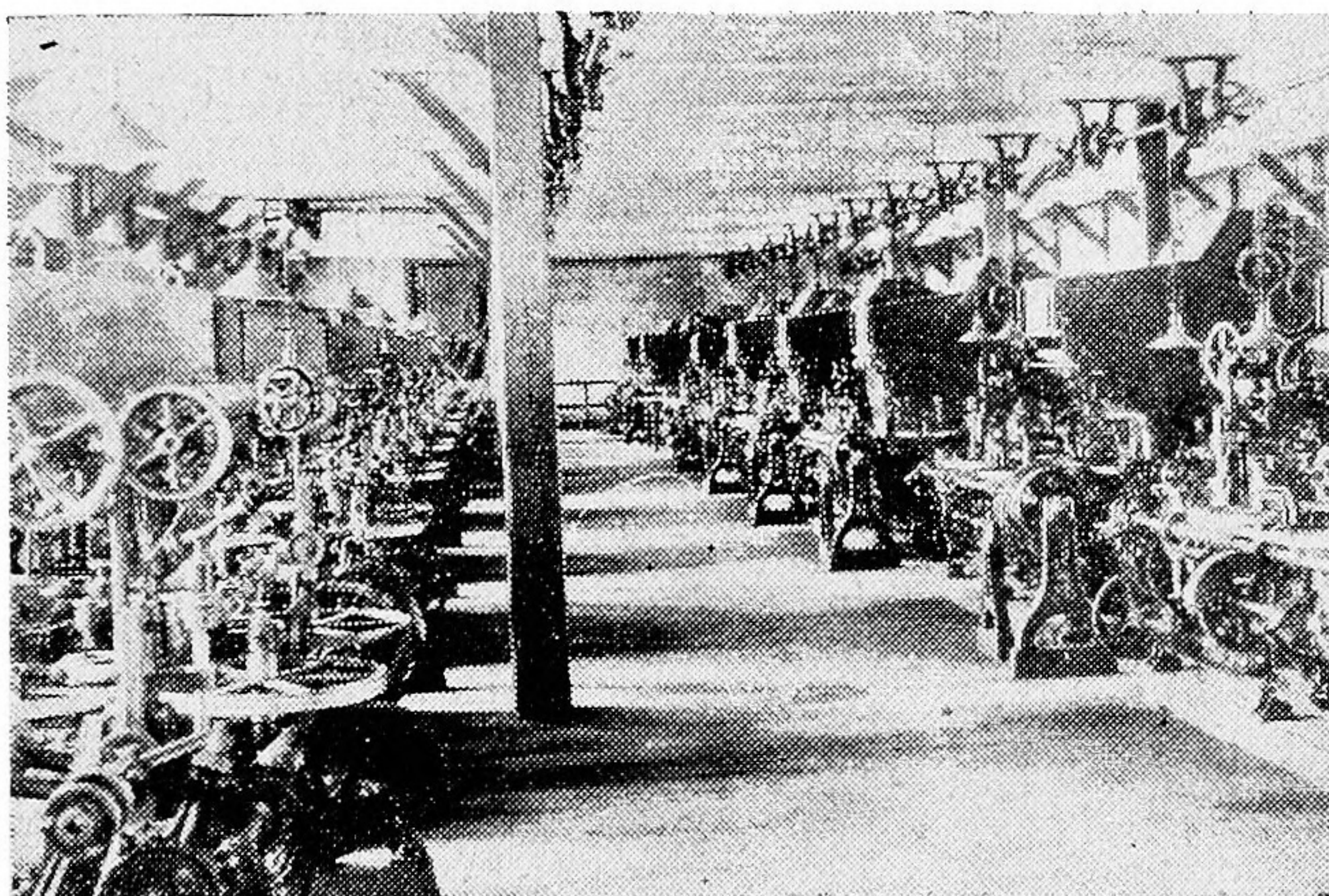
confronting the Japanese people, two companies have been started at Dairen of late for the manufacture of an imitation rice from kaoliang.

Next, in view of the climate and soil of North Manchuria being adapted to the cultivation of beets, the Russians maintain an extensive beet sugar refinery at Ashiho, and the Chinese themselves one at Hulan, both in North Manchuria.

The Japanese too, have established the South Manchuria Sugar Refining Co. at Fengtien (Mukden), and when the advantages of beetgrowing become more widely known among the Chinese farmers, this enterprise will grow.

At present the Mukden Refinery depends on the native-raised beets for working material from October to the ensuing February, and for the rest of the year, crude sugar is imported and refined.

By the side of sugar refining, manufacture of tobacco is also promising.



Interior of East Asia Tobacco Factory, Yingkou.

The East Asia Tobacco Co. keeps factories at Yingkou (Newchwang), Tientsin, and Fengtien (Mukden). The total outputs of leaf tobacco in Manchuria amount to about 50,000,000 *kin* a year. Still what is imported thereto from the United States, Japan, Chosen, and South China, amounts to between ¥6,000,000 and ¥7,000,000 worth.

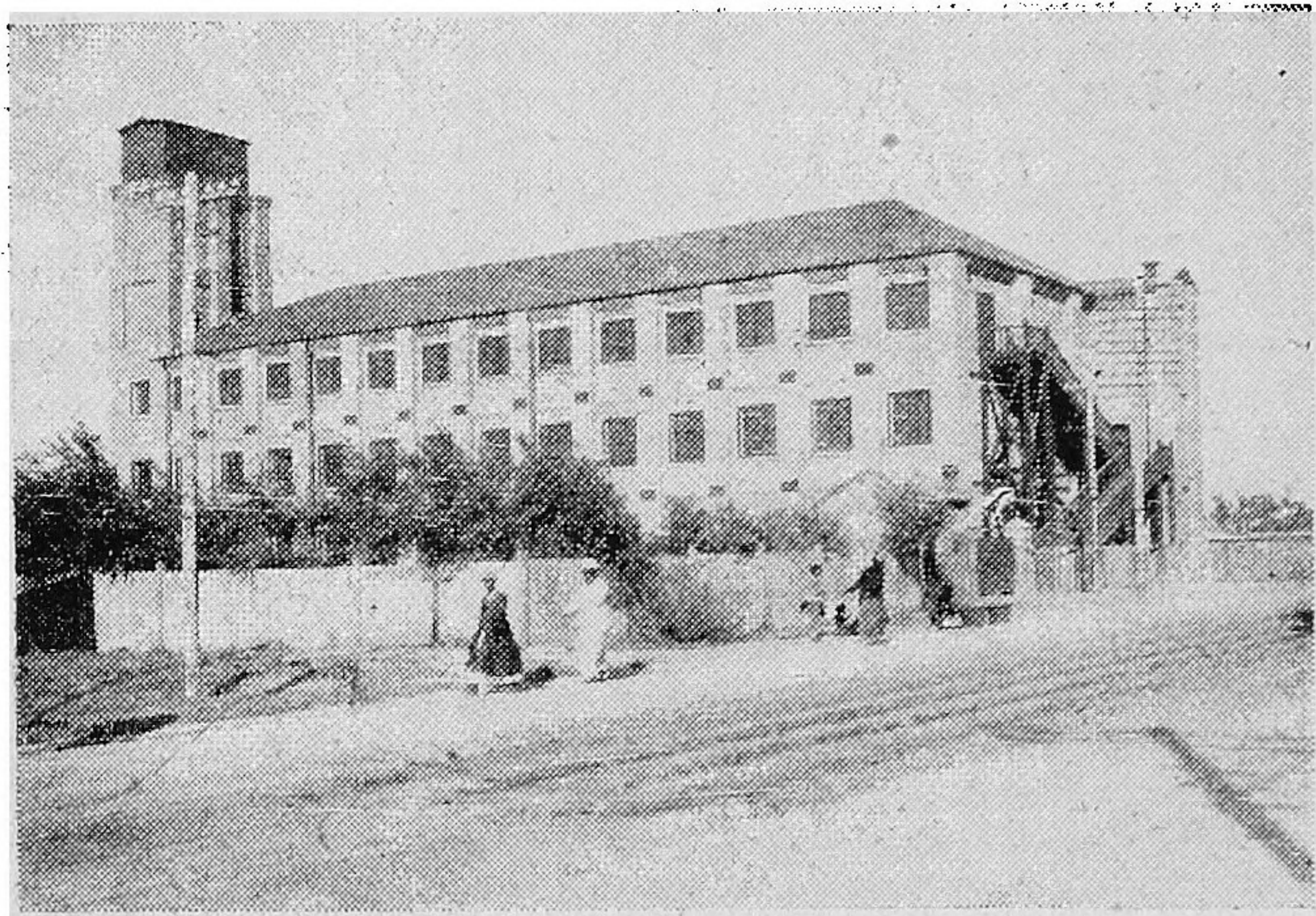
The British-American Tobacco Co. may be looked upon as the master of the tobacco situation in China, but in Manchuria, the East Asia Tobacco Co. is competing with the other.

Besides, there are at Fengtien (Mukden) the China Tobacco Co. and Sanlin Kungsu, and at Dairen the Oriental Tobacco Co. and Manchuria Tobacco Co., but none of them has attained any degree of importance.

The S. M. R. Co. is now engaged in the comparative study of American and Japanese tobacco plants.



The Manchuria Beer Brewery Co., at Dairen, having a brewery at Ryojun (Port Arthur) uses barley and hops raised in Manchuria.



British-American Tobacco Co., Mukden.

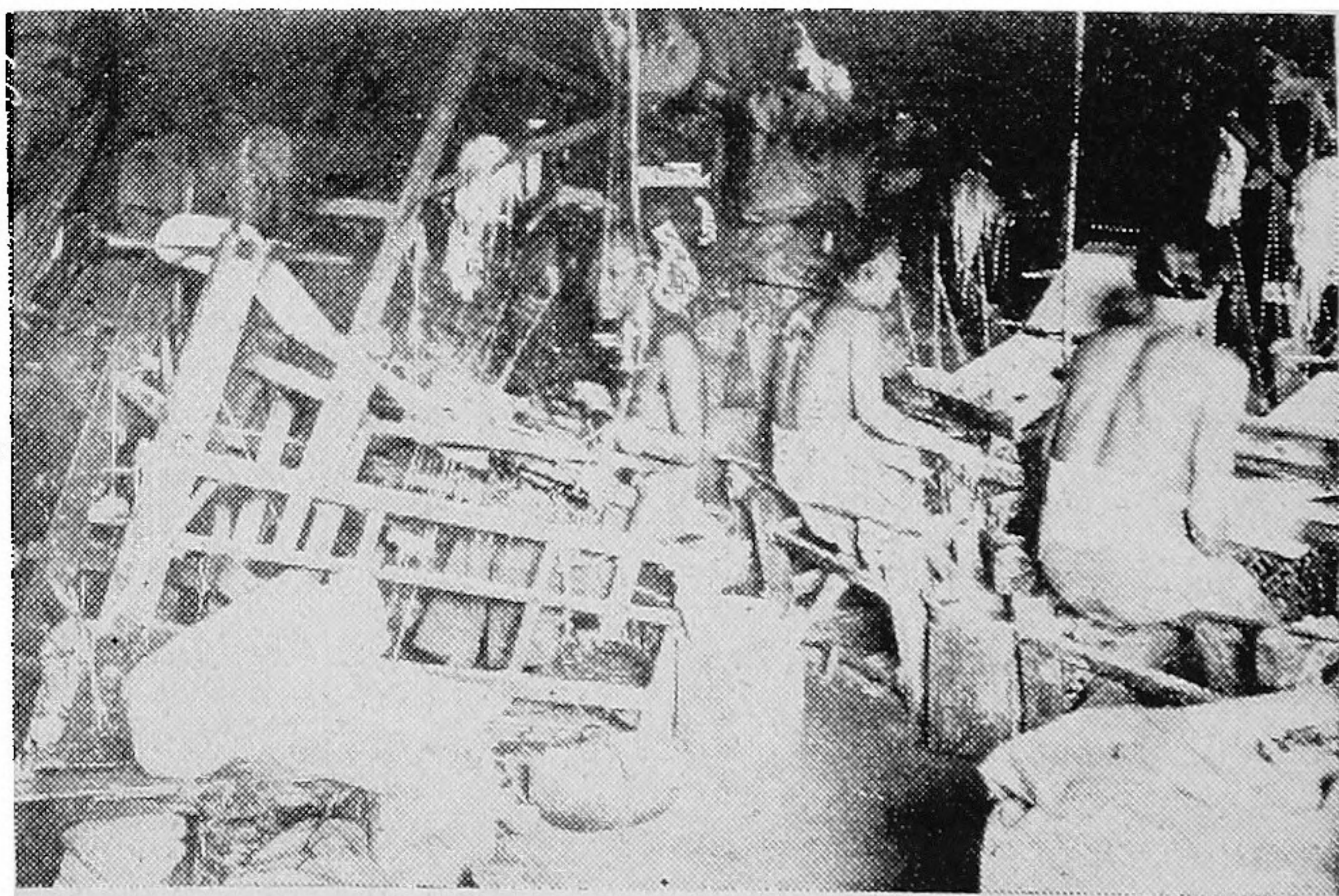
In Manchuria, there is plenty of live stock, but industries based on leather and wool have sprung up only recently, and hides, animals' bones, wool, etc., used to be exported abroad as they were.

In recent years, the Manchuria-

Mongolia Woollen Manufacturing Co. has been founded at Fengtien (Mukden); the Manchuria-Mongolia Development Co. at Dairen; and the Manchuria Brush Factory at Fushun.

The leather outputs are now put at ¥2,000,000 a year.

Next, wild sericulture claims due recognition. Wild silkworms are raised in the Tungshan (Easten Hill) District to the east of Kaiyuan



Tussah Silk Weaving Factory, South Manchuria.

and the Liaotung Peninsula along the Mukden-Antung Line, and in the region lying between Antung and Haicheng. Their annual yields are estimated at 80,000,000 in valued at ¥20,000,000, in addition to ¥5,000,000 worth of tussah silk.

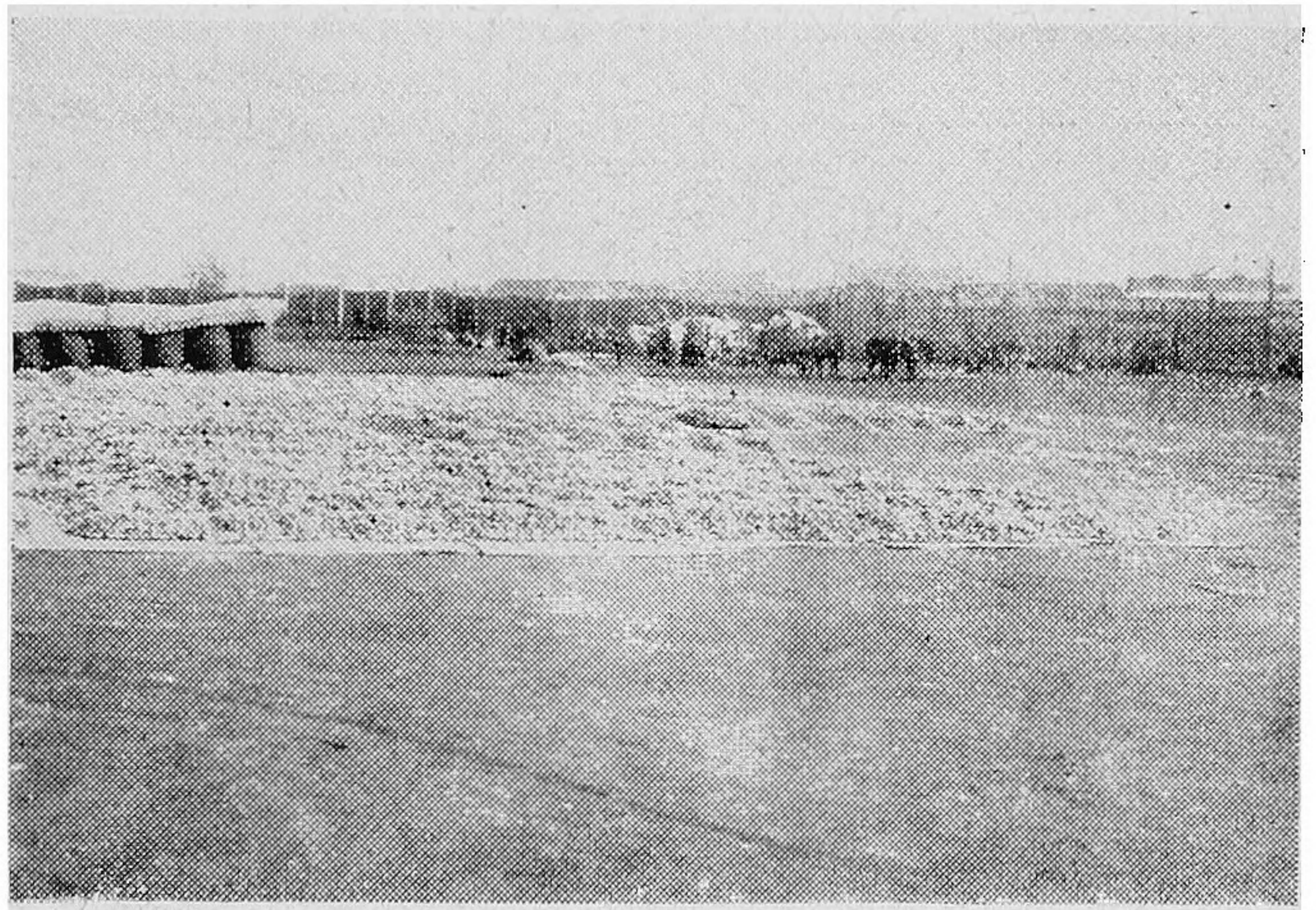


Wild filatures managed by Japanese number only a few, and the rest is done by the Chinese farmers, much of it being carried on as a domestic bye-industry. A major portion of wild cocoons is exported yearly Chefoo way.

In view of the total outputs of hemp amounting to 50,000,000 *kin* and also of an enormous quantity of gunny bags being in request to pack Beans, wheat, kaoliang, etc., in, the Manchuria Hemp Manufacturing Co. has been established at Dairen, and the Manchuria-Mongolia Fibre Industry Co. at Fengtien (Mukden).

Among other Japanese enterprises may be included manufacture of matches, gunpowder, fertilizer, dye-stuffs, wickerwork made of golden-willow twigs, etc.

Poplar and other timbers for making match sticks are found in plenty,



Sun-drying Wild Cocoons, Antung.

and this undertaking is much prospering exclusively under Japanese management.

Paper mills at Kirin, Liaoyang, and Petune (Hsiao-Kulun) and also dyeing and weaving works at Yingkou, Liaoyang, and Chinchow (this side Shanhaikwan on the Peking-Mukden Line of the Chinese Government Railways) may be also mentioned as among the native industries handed down from old days.

The weights, etc., of wild cocoons, dried, per 100 grains, are as under :—

|                |           |     |     | Weight       | Silk tissue  | Larva        |
|----------------|-----------|-----|-----|--------------|--------------|--------------|
|                |           |     |     | <i>momme</i> | <i>momme</i> | <i>momme</i> |
| Spring cocoons | { Thicker | ... | ... | 46.9         | 10.7         | 36.0         |
|                | { Thinner | ... | ... | 30.7         | 6.1          | 24.5         |
| Autumn cocoons | { Thicker | ... | ... | 58.7         | 17.6         | 41.1         |
|                | { Thinner | ... | ... | 37.6         | 8.8          | 23.8         |

Remarks : 120 *momme* makes 1 lb.

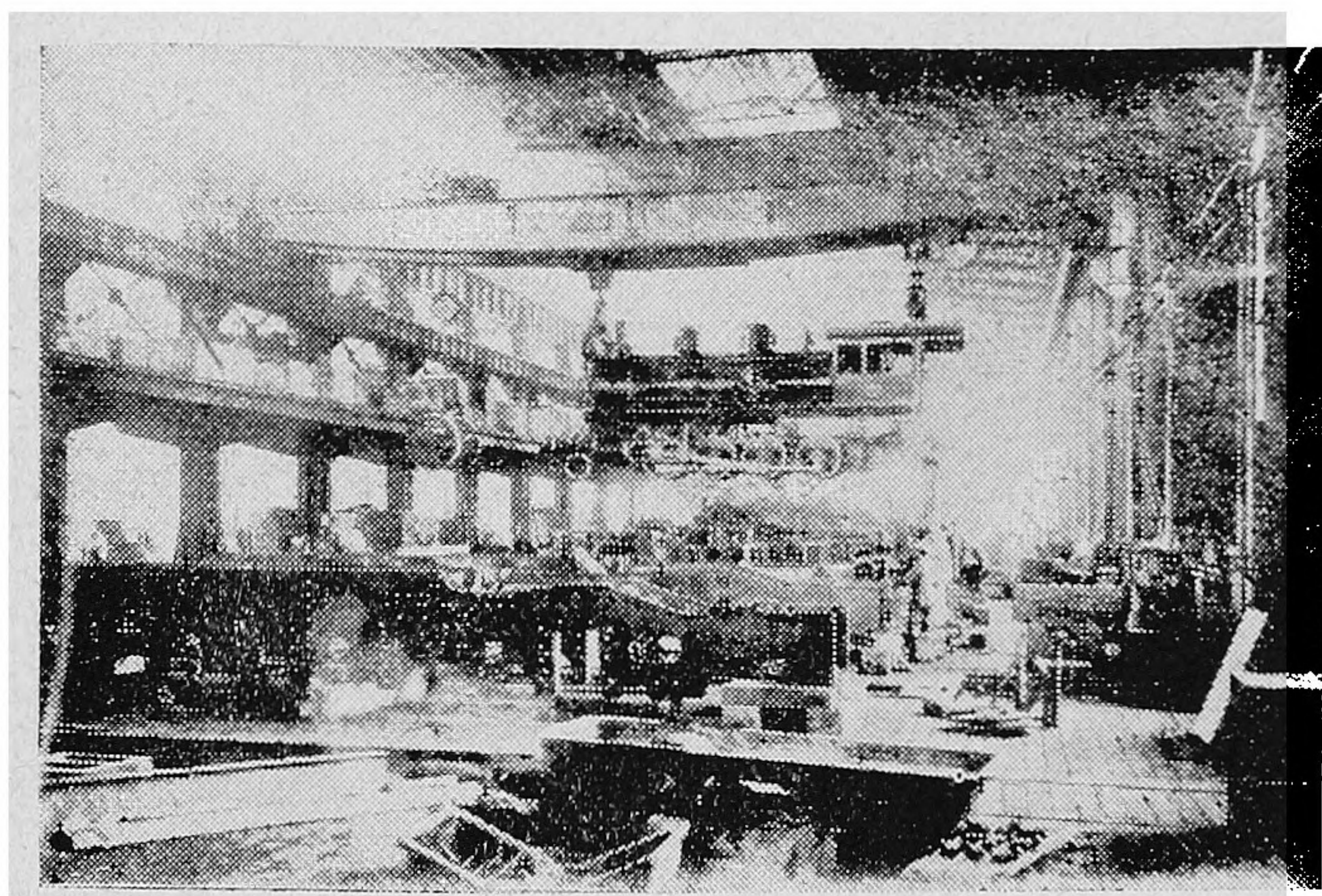
**STEEL & IRON WORKS & OTHER MECHANICAL INDUSTRIES.** Iron and steel manufacturing is carried on at the Anzan Iron & Steel Works and also



by the Penchiu Colliery & Mining Co., as remarked under the heading of the "Mining." Foundry work is done on the largest scale at the S. M. Railway Workshops and its branch workshop at Liaoyang. The manufacture and repairing of rails, car bodies, wheels, and other rolling stock accessories, and other machinery are executed to the amount of ¥3,000,000 a year.

The Dairen Branch of the Kawasaki Dockyard Co. undertakes repairing of vessels and construction of vessels of smaller-type.

In addition, there are the Dairen Machinery Works, Manchuria Mechanical Works, etc.



Engine-Assembling Shop, S. M. Railway Workshops, Shihokou.

At Antung there is the Antung Iron Works.

As to electricity works, since there is no hydraulic power available, steam and gas are depended upon for the generation of electricity.

The S. M. R. Co. supplies light and power at Dairen, Changchun, Fengtien (Mukden), Antung, and Fushun where it keeps power stations. At Dairen and Fushun, electric tram cars are operated.

There are also electric light companies at Wafangtien, Tashihchiao, Ssupingkai, Kungchuling, etc., to which substantial support is given by the Railway Company.

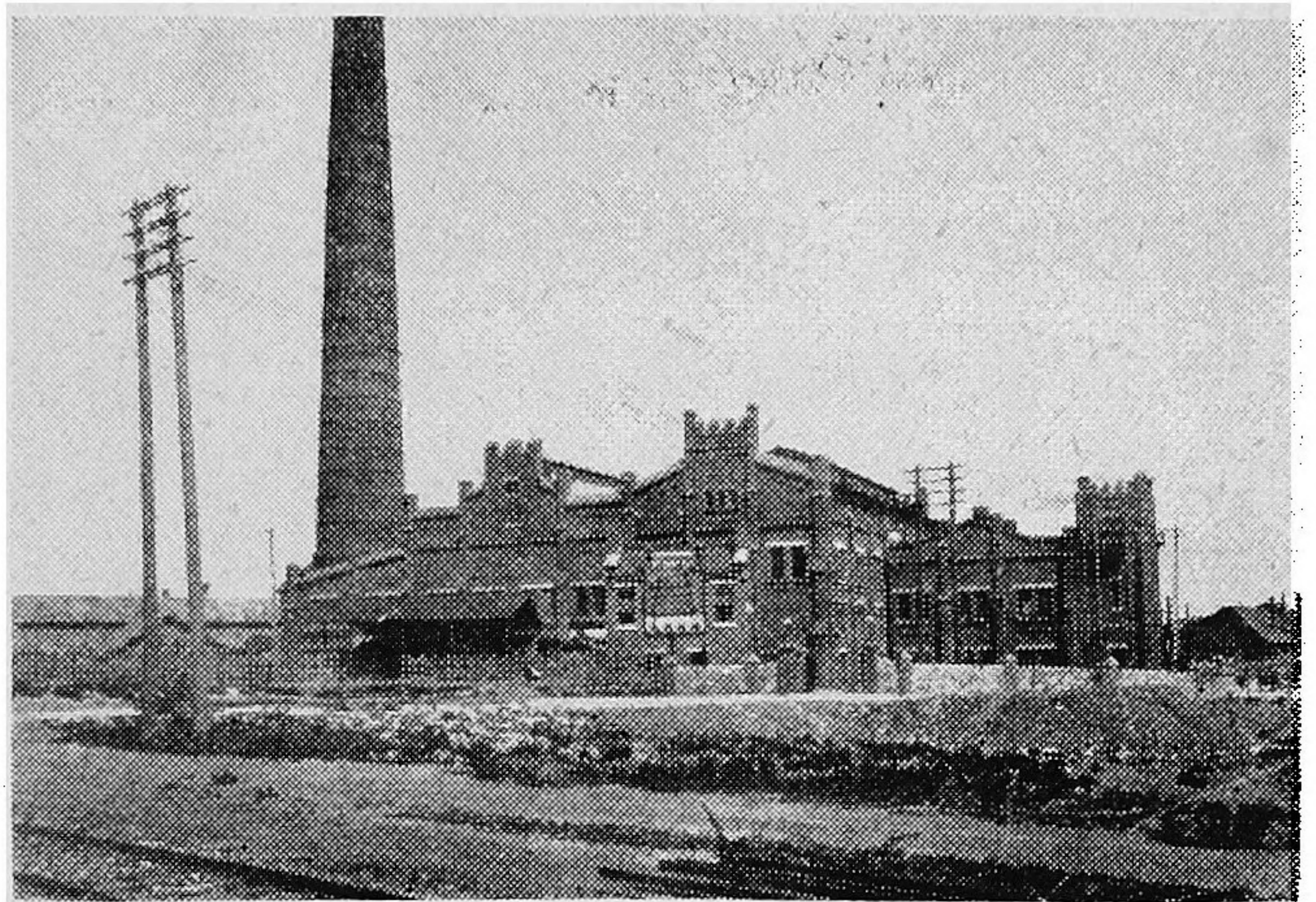
The Yingkou Waterworks & Electricity Co. lies under Sino-Japanese management and is engaged in telephone business in addition to supplying water and electricity.

At Harbin an electricity works formerly owned by Russians has been bought by the North Manchuria Electricity Co. which serves both light and power.



Under Sino-Japanese joint, and exclusive Chinese, management, there are electric light companies at Liaoyang and Tiehling, Manchuria Electricity Co. at Kaiyuan, Kirin Electricity Plant at Kirin, Taolu Electric Light Co. at Taolu, and North Shanchengtzu Electricity Co. at North Shanchengtzu. In addition, most of the cities along the Chinese Eastern Railway are provided with electric light.

In the line of electro-chemical industry, there are the Tahua Electro-Metallurgical Co. under Sino-Japanese joint management, East Asia



S. M. R. Co. Electric Power House, Dairen.

Electric Industry Co., China Electric Industry Co., and South Manchuria Electricity Co., all at Dairen, and are earning fair results.

As to gas, there are gas works at Dairen and Fushun only, both under S. M. R. Co. management.

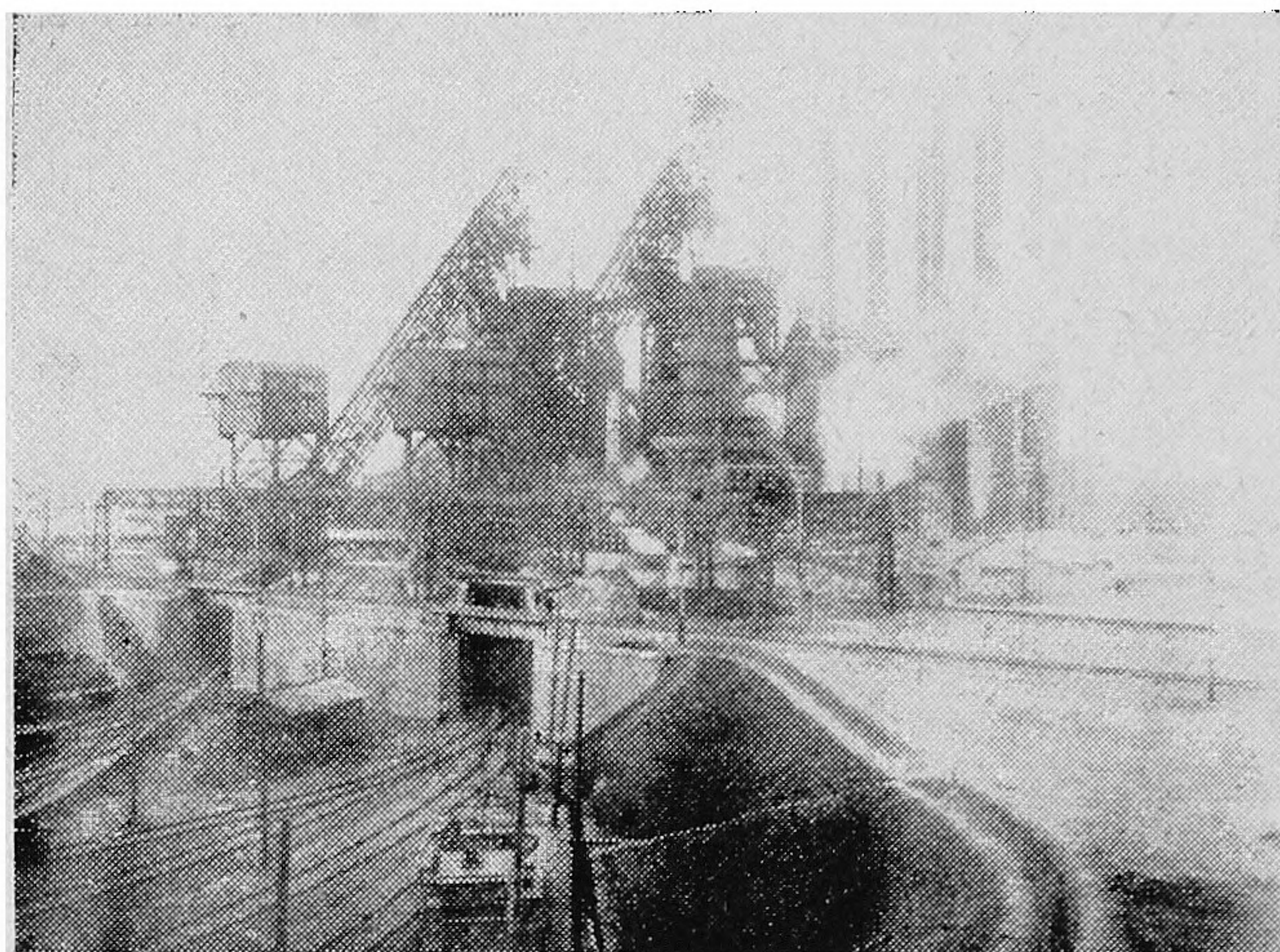
## VIII. Mining.

Manchuria and Mongolia are rich in mineral products of different kinds, but such mines as are being worked are comparatively small in number, and their exact reserves are hard to be ascertained in many cases.

In metallic minerals, iron and gold occupy important places. As regards non-metallic minerals, they are also varied. Coal is by far the most important, and silicious stone, mica, asbestos, graphite, talc, fluorite, magnesite, limestone, soda, etc., are found in considerable quantities.

Gold in Manchuria and Mongolia occurs for most part in the shape of placer deposits, what there is obtainable from gold veins being in insignificant quantity.





Blast Furnace, Anshan Iron & Steel Works.

What the outputs are is not available, but in Heilungkiang Province alone, the total products are placed at ¥20,000,000 worth per annum.

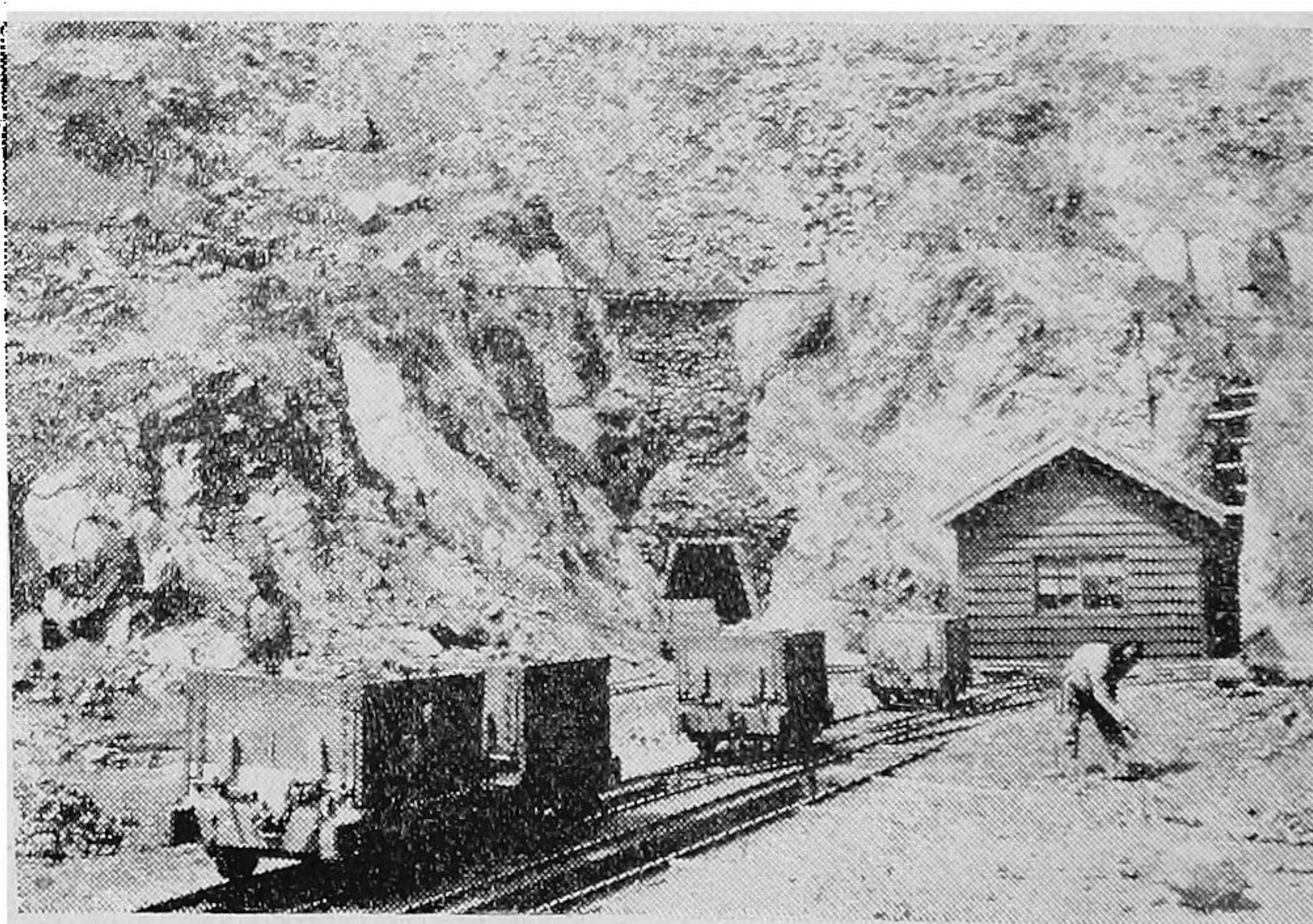
Not an extensive bed of silver, copper, lead, zinc, etc., has yet been discovered, except the silver and copper mine at

Tienpaoshan in Chientao, Kirin Province, which deserves notice.

The iron reserves are estimated to be in enormous quantities. The Anzan Iron & Steel Works and the PENCHIHU Colliery & Mining Co. are the only places where iron and steel manufacture is conducted.

The PENCHIHU Colliery & Mining Co. is under Sino-Japanese management. Lime and coal found about PENCHIHU and iron ore mined at MIAOERHKOU, at a short distance from Nanfen Station, are used as materials for the blast furnace, which was opened to service in 1915. The daily output is 200 tons.

The S. M. R. Co. Anzan Iron & Steel Works was founded during the War for the purpose



Yingtaoyuan Iron Mine Pit, Anshan.



of supplying iron for Japan's own use. For coke material, both Fushun and Penchihiu coals are used. Some day the Works is expected to produce 1,000,000 tons of pig iron or 800,000 tons of steel. At present, two blast furnaces have been completed, but only one of them is being worked.

**COAL.** Coal is the mineral product of foremost importance in all Manchuria and Mongolia. Fushun Coal is now universally known all over the world.

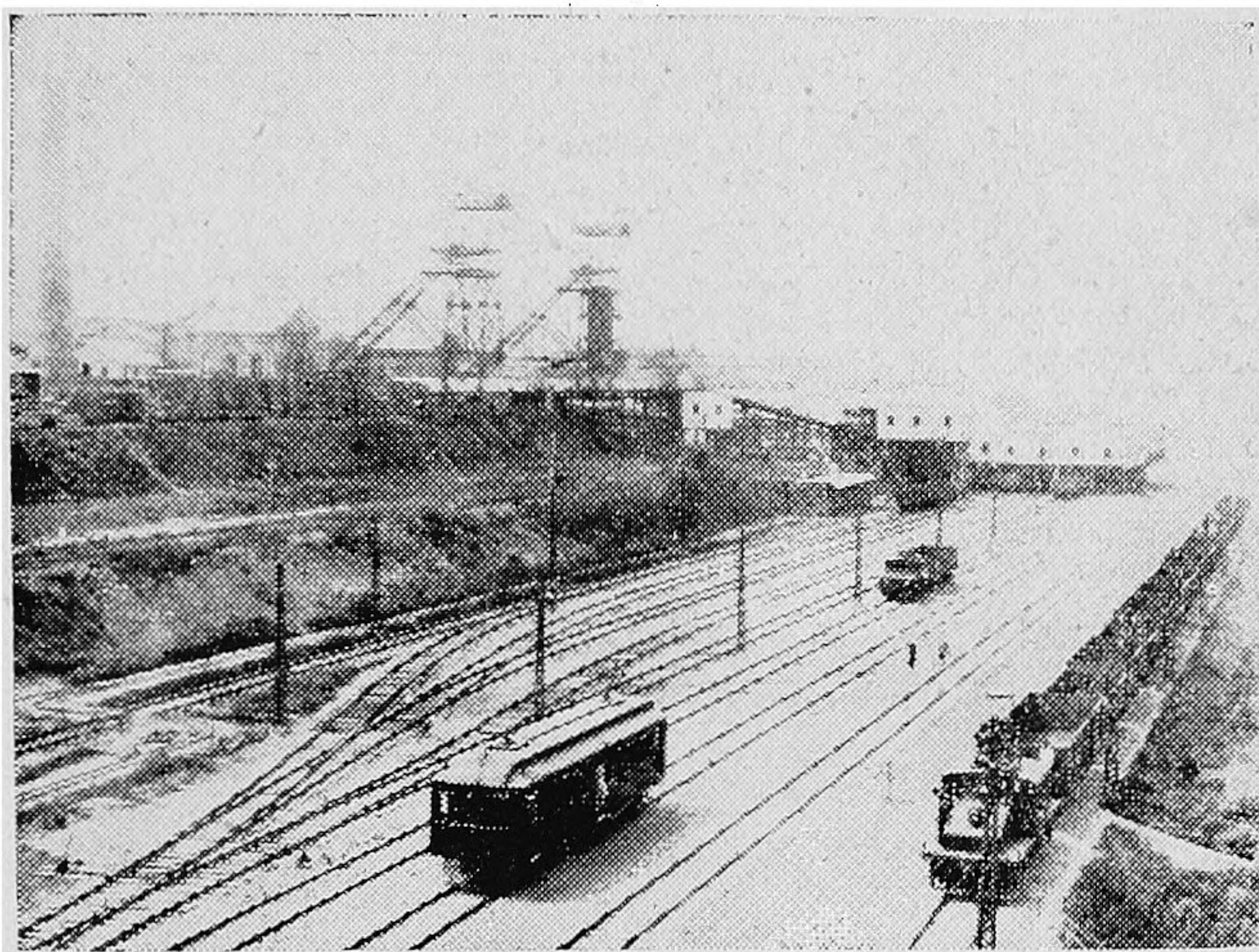
In addition to Fushun Collieries, there are Penchihiu, Yentai, and Hsinchiu Collieries.

Fushun Collieries were transferred to Japanese possession as a result of the Russo-Japanese War. They lie some 25 miles east of Fengtien (Mukden) and they cover 20,000,000 *tsubo* in area. The thickness of the coal seam ranges from 78 ft. to 480 ft., the average thickness being of from 130 ft. to 175 ft. The coal reserve is believed to be uniquely immense and is estimated roughly at over 1,000,000,000 tons, of which more than 80% can be mined by the adoption of the most up-to-date mining method. At present the daily outputs are 10,000 tons.

Yentai Colliery also belongs to the S. M. R. Co. The coal reserve available for mining is placed at 40,000,000 tons. The present daily output is about 200 tons.

Penchihiu coal has a strong calorific power and is suited to the manufacture of coke for steel works. It is a semi-anthracite and its coal reserve is put at 200,000,000 tons. The coal seam is from 2 to 9 ft. thick.

Hsinchiu Colliery situated in the west of the Liao River is now well known. Boring experiments are now being conducted. It is said to have six seams, each



Oyama Shaft, Fushun Collieries.



from 5 ft. to 30 ft. thick. What its coal reserve amounts to is yet unknown, but some geologists place it even above that of the Fushun Collieries.

There are also other collieries in South Manchuria, but only a few are found in North Manchuria where the Chinese are working them by hand and putting out some to fill the local needs.

**NATURAL SODA.** The Eastern Part of Inner Mongolia is held as a great belt for natural soda. The low plains, lakes, and swamps, and their neighbourhoods become hoary as if by frost in the dry season in spring and autumn. Sometimes the soda forms in layers and present a beautiful sight.

Natural soda is worked at the native soda depots. From spring to summer, crude soda is compressed into the form of brick, and from autumn to winter, crystallized soda of comparatively fine quality is obtained. In Chelimu Tribe (Inner Mongolia), the noted lake abounding in soda, which is called Tapusu, is located. On the upper part of the West Liao, there is a plain known as Pali-Shantien Chientzu which also yields a good quantity of natural soda.



Crude Soda Depot, Inner Mongolia.

As the means of communications are developed with the diffusion of civilization, natural soda of Inner Mongolia is bound to be exploited. Especially, as the Chengchiatun-Paiyintala extension of the Ssuping kai-Chengchiatun Section of the Ssuping kai-Taonan Line is opened to traffic before the end of the current year (1921), the natural soda industry in those regions is expected to be strikingly developed.

**MAGNESITE.** Manchuria abounds with limestone, which usually contains more or less magnesite.

Near Tashihchiao (the junction station for the Yingkou (Newchwang) Branch Line) a magnesite of exceptional dimen-



sions has been discovered, and as it has proved excellently suited to the making of fire-bricks, it is now supplied to the Government Steel Works, Edamitsu, and the Anzan Iron & Steel Works, etc. Lignoid and another flooring material are manufactured by the South Manchuria Mining Co.

In addition, fire-clay, limestone, silicious stone, felspar, and other useful minerals are found, and are being put to suitable uses.

In terms of the Sino-Japanese Treaty concluded in 1915, nine mines are designated for the Japanese to bore experimentally and to work.

Of this number, the collieries are located at Niuhsintai (at 10 miles east of Penchihu), Tienshihfukou (55 miles east of Penchihu), Shansungkang (at 23 miles southeast of Chaoyangchen), Tiehchang (20 miles northeast-east of Tunghua), Nuantitang (25 miles southwest of Chinchow this side Shanhaikwan), Kangyao (33 miles north northeast of Kirin), and Shansungpei in Chientao (20 miles north of Kwainai, the terminus of the proposed Kirin-Kwainai Railway).

The iron mine about Anshan and the gold mine at Chiapikou (at 30 miles east of City of Kirin) are also included in the above list.

## IX. Finance & Commerce.

TRADE ORGANIZATIONS. On the list of the Japanese trade organizations along the South Manchuria Railways, the Chambers of Commerce at Dairen, Fengtien (Mukden), Antung, Changchun, and Yingkou are the most prominent.

The "Manchuria & Mongolia Trade & Industrial Reports," as published in Japanese by the Dairen Chamber of Commerce, are extensively read as guide to those wishing to start activity in Manchuria and Mongolia.

The Chambers at Fengtien (Mukden), Yingkou, Antung, and Changchun also publish monthly reports in Japanese which have a referential value.

Among the Chinese, as the case is at every trade centre in China, they keep a Guild of their own.

Next, as to the Exchanges, the Dairen Produce Exchange was established in 1913; in 1915, a Produce and Currency Exchange was opened at Kaiyuan and another at Changchun in 1916. In 1917, a Currency Exchange was established



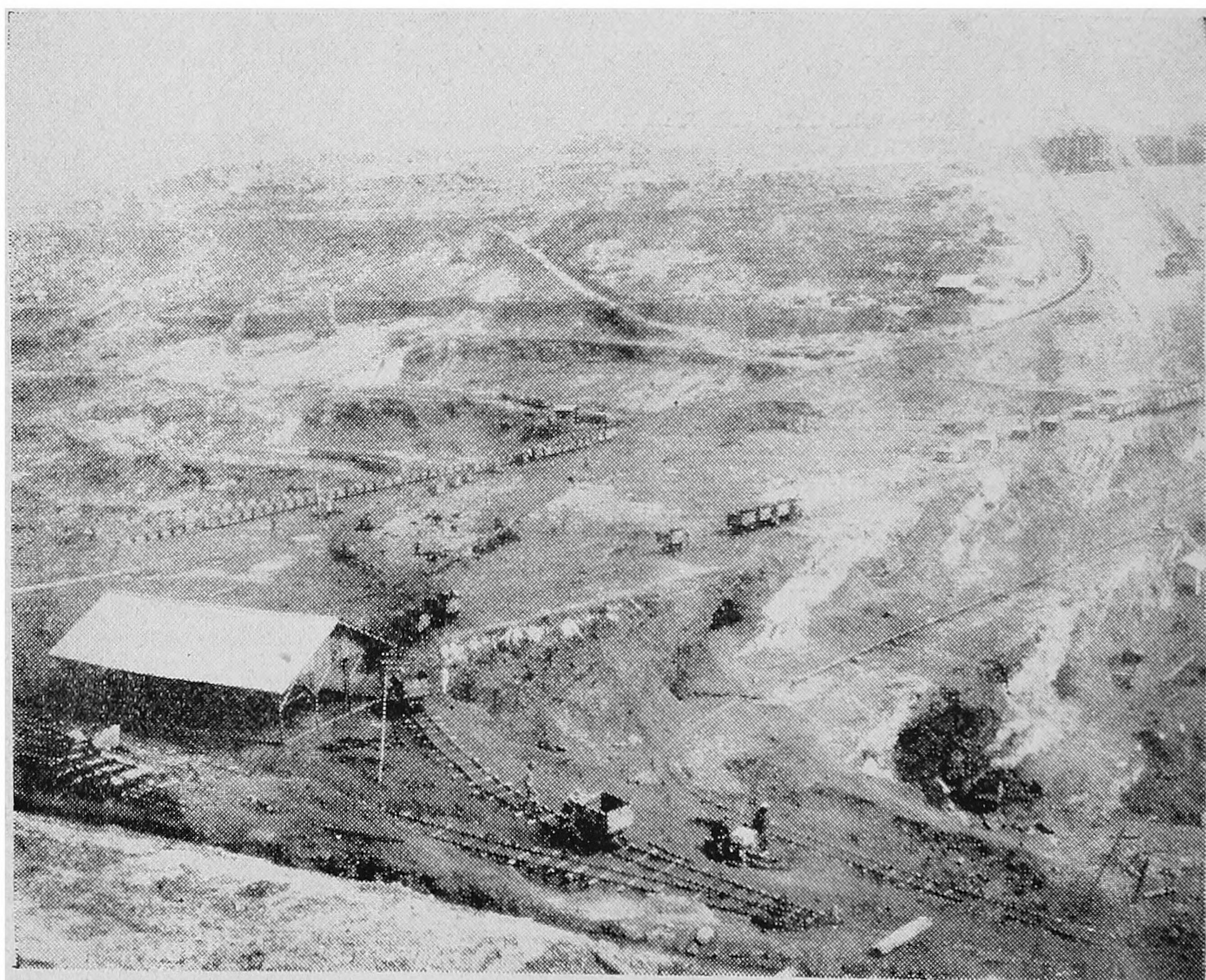
in the Dairen Produce Exchange, and now the Produce and Currency Exchanges are known as the Dairen Exchange.

In 1919, a Produce and Currency Exchange was opened at Kungchuling, Ssu-ping kai, and Tiehling, and in 1920, at Fengtien (Mukden), Yingkou, and Liaoyang.

In addition a sharestock and merchandise exchange has been founded at Dairen and Antung under private management.

On the above mentioned Exchanges are dealt in Beans, Bean Cake, Kaoliang, Bean Oil, wheat, Italian millet, etc., gold notes issued by both the Bank of Chosen and the Yokohama Specie Bank, Russian rouble notes, silver notes issued by the Yokohama Specie Bank, Chinese small silver coins, and Chinese small silver coin notes.

How is it that these currencies are dealt in on the Exchanges will be enlarged upon under the heading of "Currency," but a few words may be put in here for explanation.



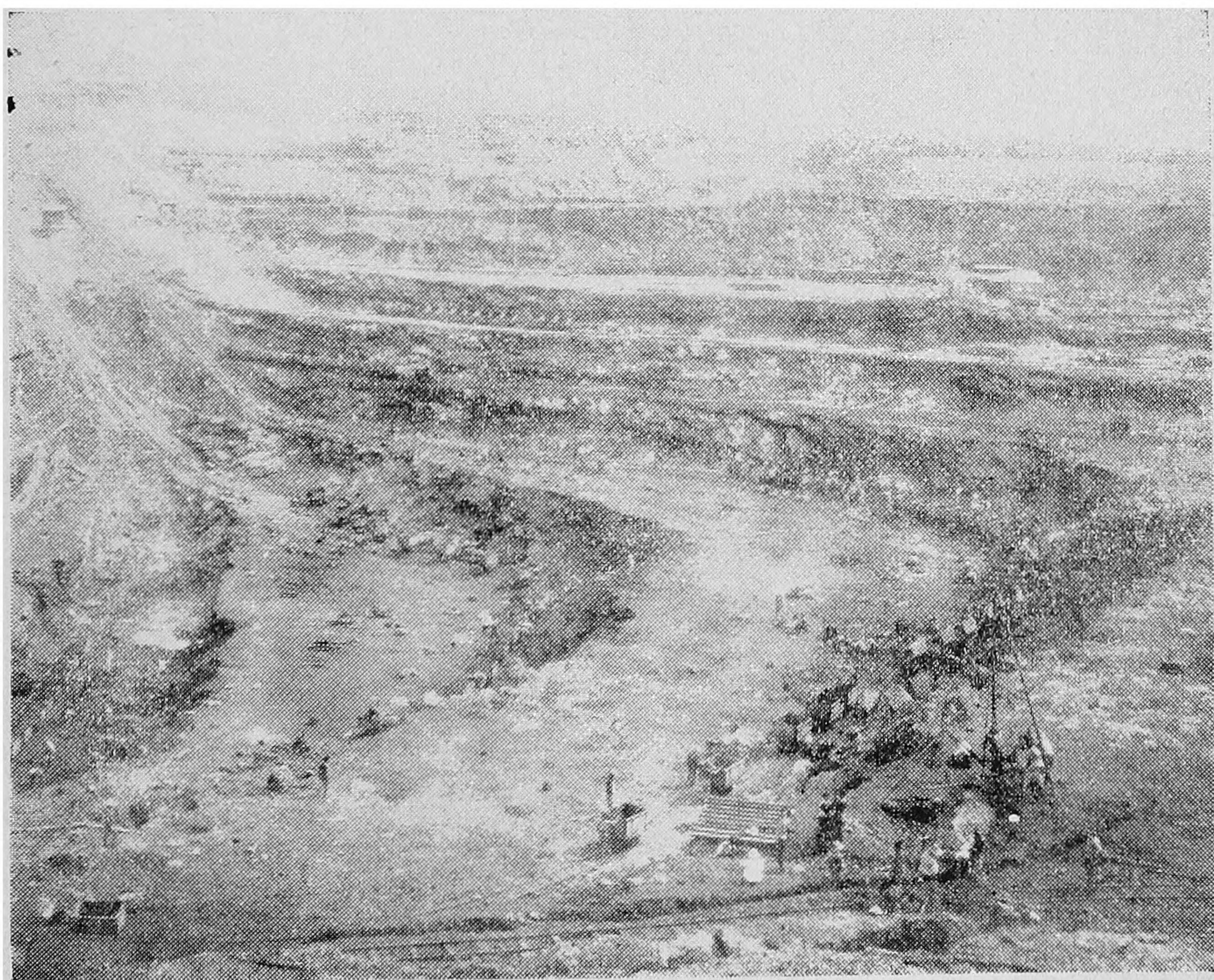
OPEN CUT, KUCHENGTZU,



In Manchuria, owing to the great variety of currencies in circulation and more particularly because of the constant fluctuations in their exchange rates, the currencies have come to be looked upon as something like articles of commodities. Because of this peculiar feature in the currency situation in South Manchuria, excepting the privately-managed exchanges (sharestock and merchandise) at Dairen and Antung, the Exchanges lie under Government management, and in order to guarantee the delivery of the stocks bargained for on the given date of delivery and also to settle the accounts between sellers and buyers, a trust and guaranty company under private management is attached to each Exchange.

Further, at Antung, Tiehling Changchun, and Harbin, commercial museums are maintained for the purpose of exhibiting samples of Japanese products.

In addition, there are at Dairen the Manchuria Staple Produce Dealers' Association, Dairen Staple Produce Dealers' Union, Currency Future Dealers' Union,

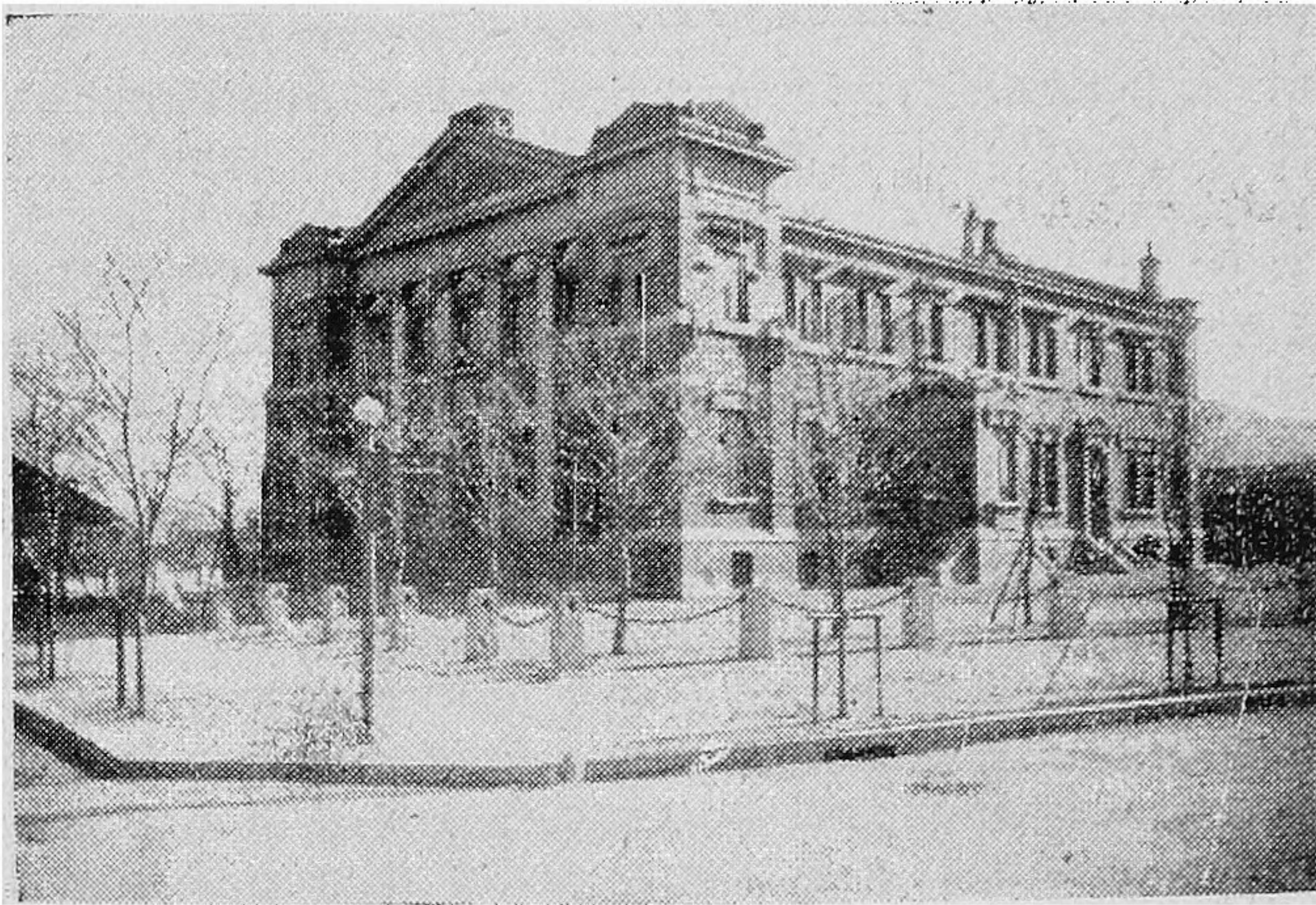


FUSHUN.



Manchuria Building Contractors' Union, etc., to keep their respective members in touch with one another.

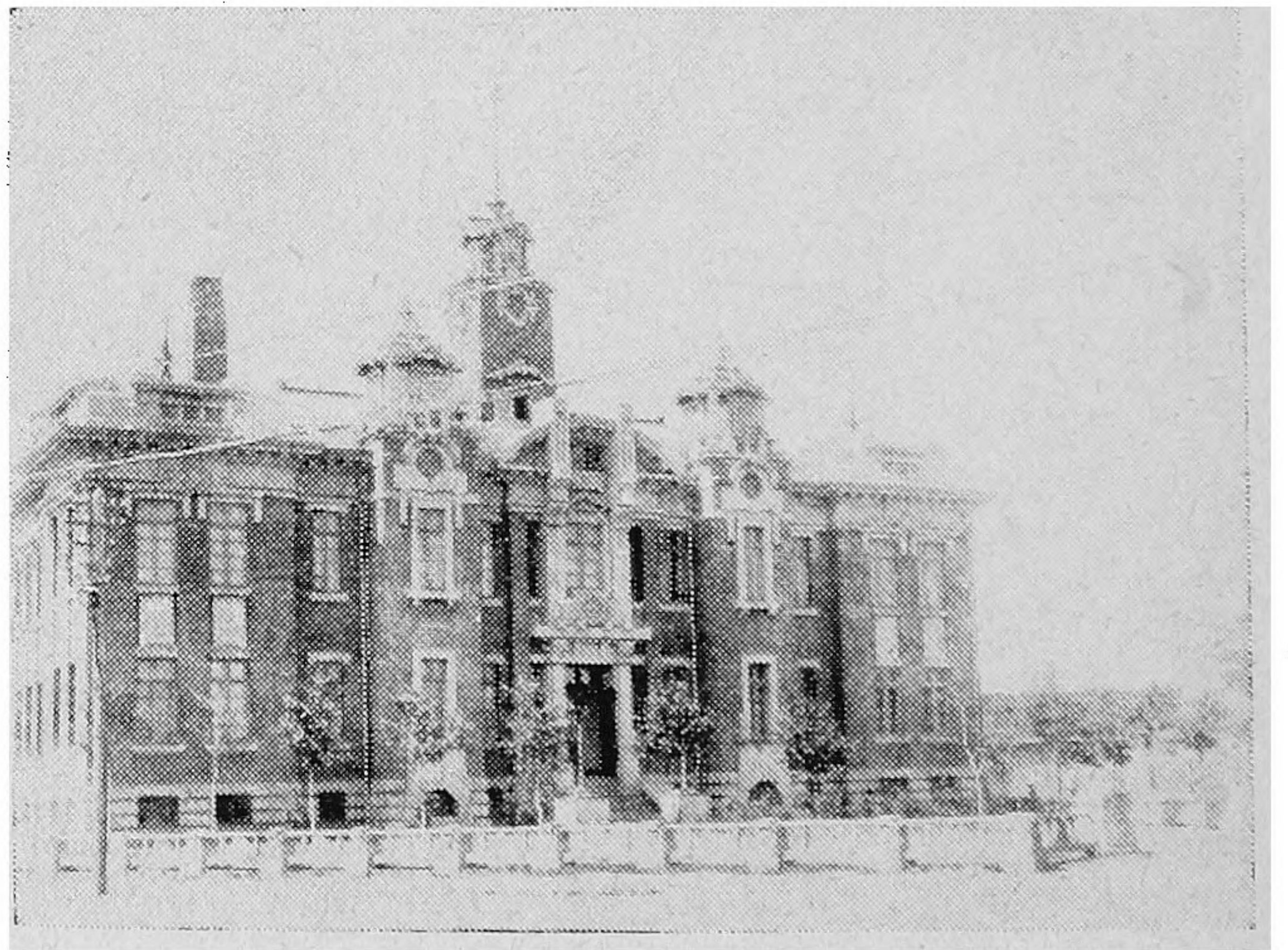
FOREIGN TRADE. Manchuria was first opened to foreign trade in the 8th of Hsienfeng under the Manchu Dynasty (1858) by virtue of the Tientsin Treaty concluded between Great Britain and China in the same year. Newchwang (Yingkou) was then declared an open port.



Dairen Produce Exchange.

Subsequently with the Russian

activities in Manchuria, the port of Dairen (then Dalny) was opened as a free port and a railway was constructed between Harbin and Port Arthur, connecting at Harbin with the Manchouli-Pogranichnaya Section of the Chinese Eastern Railway which forms a link of the great Trans-Siberian Railway system.



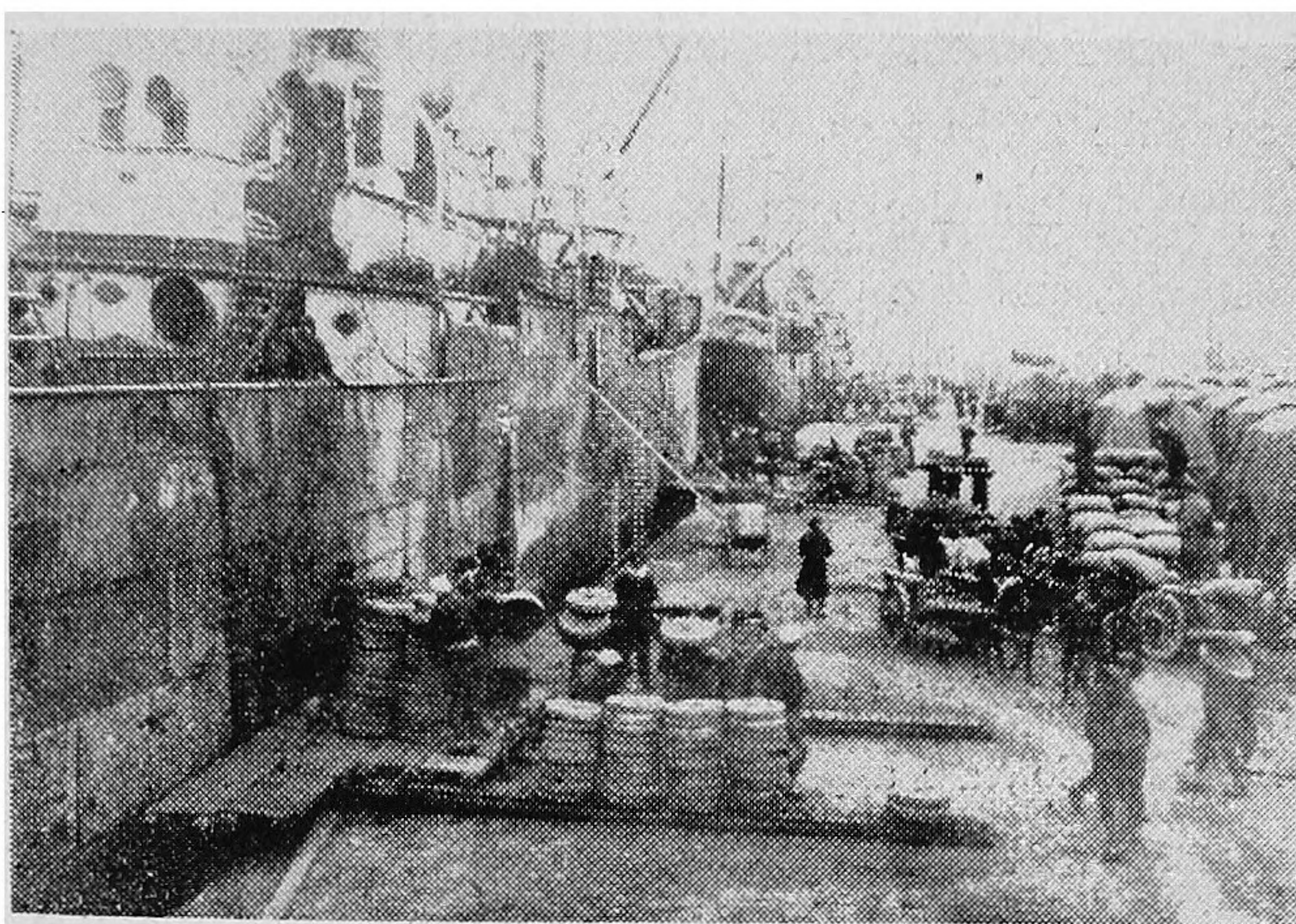
Changchun Exchange, Changchun.

The construction of the above railway marked the beginning of decay to the port of Newchwang, and when the Japanese assumed the leasehold of the Kwantung Leased Territory,



the products of Manchuria began to be drawn to the port of Dairen.

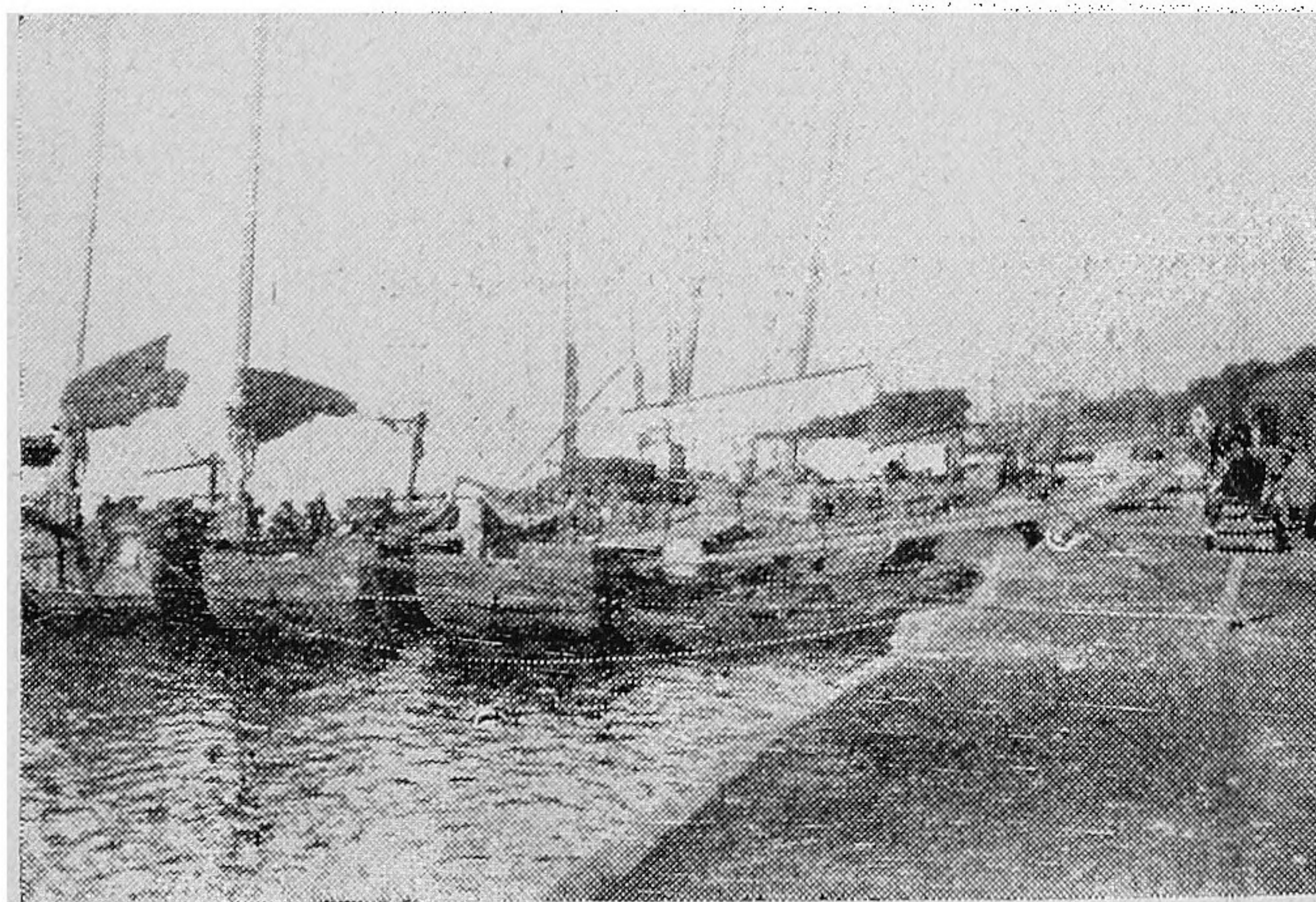
With the construction of the Mukden - Antung Line on the standard gauge the same as the other Sections of the South Manchuria Railway system, to



On Dairen Wharves (loading Bean Cake & Beans into steamer).

take the place of the narrow gauge line built during the Russo-Japanese War, followed soon afterwards with the construction of the railway bridge over the Yalu, the town of Antung started to grow.

All along the South Manchuria Railways are situated trade centres where the products are put on the market and where the imports are distributed to the inhabitants. Of these, Fengtien (Mukden), Changchun, and Kaiyuan seem to have the most glowing prospect, as Harbin in North Manchuria does.



Chinese Maritime Customs, Newchwang.

The gateways of Manchuria trade are Dairen, Yingkou, Antung, and Vladivostok.

Of these four, the port of Dairen has made the most conspicuous progress.

In 1919, its trade returns aggregated *Hk. Tl.* 260,000,000, by which



figure Dairen outstripped Tientsin, taking the second place next to Shanghai only, among the China ports.

The principal exports are Beans, Bean Cake, Bean Oil, kaoliang, wild cocoons, coal, coke, and iron materials, whilst among the chief imports may be mentioned cotton fabrics, cotton yarn, pongee and pongee silk fabrics, woollen goods, sugar, rice, flour, etc.

For reference sake, the export and import returns for 1920 for Dairen, together with the comparative trade returns for the three ports of Dairen, Yingkou, and Antung, according to the North China Annual Trade Reports compiled by the S. M. R. Co., are appended below:—

### Exports from Dairen in 1920.

|                                        | piculs        | Hk. Tl.    |
|----------------------------------------|---------------|------------|
| Beans (Soya) ... ..                    | 8,831,164     | 24,750,377 |
| Maize ... ..                           | 531,252       | 828,753    |
| Italian millet ... ..                  | 646,647       | 1,739,480  |
| Other Kinds of Beans ... ..            | 1,033,917     | 2,624,436  |
| Kaoliang ... ..                        | 879,273       | 1,318,910  |
| Wheat ... ..                           | 744,473       | 2,047,301  |
| Sesamum ... ..                         | 189,615       | 967,943    |
| Other Cereals ... ..                   | 189,615       | 527,202    |
| Melon-seeds ... ..                     | 27,280        | 175,410    |
| Ground-nuts ... ..                     | 60,416        | 248,944    |
| Other seeds ... ..                     | 483,550       | 1,703,877  |
| Vegetables and fruits ... ..           | 4,311         | 23,152     |
| Wheat flour ... ..                     | 32,574        | 143,976    |
| Bean noodles ... ..                    | 972           | 6,473      |
| Eggs ... ..                            | 5,000 pieces  | 66         |
| Marine products ... ..                 | 13,871 piculs | 85,527     |
| Shumshu, etc. ... ..                   | 15,421        | 124,756    |
| Tobacco ... ..                         | —             | 171,737    |
| Other comestibles and beverages ... .. | —             | 569,056    |
| Bean Cake ... ..                       | 16,639,962    | 36,851,244 |
| Bean Oil ... ..                        | 1,991,933     | 17,369,655 |
| Ground nut oil ... ..                  | 11,927        | 101,141    |
| Paulownia oil ... ..                   | 171           | 2,205      |
| Linseed oil ... ..                     | 9,394         | 83,043     |
| Other oils and fats... ..              | 23,597        | 188,643    |
| Hemp ... ..                            | 8,431         | 60,694     |
| Raw cotton ... ..                      | 710           | 20,540     |
| Wild cocoons ... ..                    | 105,128       | 1,671,849  |
| Tussah silk ... ..                     | 4,292         | 753,464    |



|                                       |                          | piculs      | Hk. Tl.   |
|---------------------------------------|--------------------------|-------------|-----------|
| Other sericultural products ... ..    |                          | —           | 321,482   |
| Bristles ... ..                       |                          | 895         | 53,077    |
| Feather & down ... ..                 |                          | 30,865      | 990,968   |
| Leather & hides ... ..                |                          | —           | 742,609   |
| Horn, tusk, etc. ... ..               |                          | 559         | 1,761     |
| Animal's bones... ..                  |                          | 156,137     | 193,610   |
| Domestic Cattle & poultry ... ..      | { 3,534 head<br>92,300 } |             | 25,230    |
| Animal fat ... ..                     | 1,117 piculs             |             | 13,917    |
| Timber ... ..                         |                          |             | 56,923    |
| Firewood & charcoal ... ..            | 6,151                    |             | 8,549     |
| Coal & coke ... ..                    | 314,213 tons             |             | 1,721,245 |
| Other mineral products ... ..         | —                        |             | 149,375   |
| Medicines & medicinal material ... .. |                          |             | 158,218   |
| Dye-stuffs & paints ... ..            | —                        |             | 17,805    |
| Ginseng ... ..                        | 86,356 kin               |             | 109,153   |
| Metals & metal ware ... ..            | —                        |             | 4,752,185 |
| Other articles ... ..                 | —                        |             | 1,946,172 |
| Exports ... ..                        | H.K. Tl.                 | 106,422,133 |           |
| Re-exports { Chinese ware ... ..      | 11,739,087               |             |           |
| { Foreign ware ... ..                 | 10,367,447               |             |           |
|                                       | 22,106,534               |             |           |
|                                       | 22,106,534               |             |           |
|                                       | H.K. Tl.                 | 128,528,667 |           |

## Imports to Dairen in 1920.

|                                     | piculs        | H.K. Tl.   |
|-------------------------------------|---------------|------------|
| Cotton fabrics ... ..               |               | 27,096,535 |
| Silk & silk & cotton fabrics ... .. |               | 1,551,772  |
| Wool & wool & cotton fabrics ... .. |               | 1,465,609  |
| Other fabrics ... ..                |               | 2,771,694  |
| Cotton yarn ... ..                  |               | 7,454,317  |
| Raw cotton ... ..                   | 14,921 piculs | 412,268    |
| Cocoons & silk yarn ... ..          | 3,468         | 709,604    |
| Other yarns ... ..                  |               | 435,972    |
| Dry goods ... ..                    | —             | 4,467,641  |
| Rice ... ..                         | 1,375,103     | 6,116,892  |
| Other cereals & seeds ... ..        | 758,319       | 1,980,835  |
| Wheat flour ... ..                  | 248,733       | 2,205,099  |
| Vegetables & fruits ... ..          | 299,952       | 783,811    |
| Sugar ... ..                        | 533,938       | 3,626,817  |
| Miso & soy ... ..                   | 15,109        | 97,305     |
| Marine products ... ..              | 161,883       | 888,112    |
| Other comestibles ... ..            | —             | 958,428    |



|                                           | piculs            | Hk. Tl.     |
|-------------------------------------------|-------------------|-------------|
| Tea & coffee ... ..                       | 78,266            | 1,010,276   |
| <i>Sake</i> & other beverages ... ..      | —                 | 1,576,835   |
| Tobacco ... ..                            | —                 | 4,553,876   |
| Cigarette making material ... ..          |                   | 244,111     |
| Furniture ... ..                          | —                 | 883,229     |
| Medicines & medicinal materials ... ..    |                   | 1,771,326   |
| Dye-stuffs & paints ... ..                | —                 | 623,538     |
| Kerosene oil ... ..                       | 8,961,668 gallons | 3,118,302   |
| Machine oil ... ..                        |                   | 524,718     |
| Other oils & fats ... ..                  |                   | 3,866,578   |
| Candles ... ..                            | 5,330             | 104,385     |
| Candle making material ... ..             |                   | 397,385     |
| Soap ... ..                               |                   | 301,596     |
| Matches ... ..                            | 4,654,774 gross   | 1,287,887   |
| Match making material ... ..              | —                 | 31,839      |
| Charcoal & firewood ... ..                | 129,818 piculs    | 86,255      |
| Coal & Coke ... ..                        | 258,420 tons      | 1,833,123   |
| Iron & Steel ... ..                       | 1,630,599         | 9,840,664   |
| Other metal ware ... ..                   | 269,096           | 2,202,908   |
| Hardware ... ..                           | —                 | 1,036,706   |
| Machinery, tools, etc. ... ..             | —                 | 10,130,812  |
| Cement ... ..                             | 927,880           | 1,002,120   |
| Timber ... ..                             | —                 | 2,378,272   |
| Building material ... ..                  | —                 | 646,739     |
| Railway material ... ..                   |                   | 109,840     |
| Electricity material ... ..               |                   | 2,029,741   |
| Fine art & toilette articles ... ..       |                   | 428,321     |
| Leather & hides, wool, bones, etc. ... .. |                   | 1,200,332   |
| Paper ... ..                              |                   | 2,408,691   |
| Printed matters & stationery ... ..       |                   | 750,955     |
| Glass & glass ware ... ..                 |                   | 782,854     |
| Pottery, China & earthen ware ... ..      |                   | 323,327     |
| Gunny bags, etc. ... ..                   | 25,653,649 pieces | 4,812,361   |
| Sundries ... ..                           |                   | 4,815,404   |
| Total ... ..                              |                   | 130,148,217 |

### Comparative Table of Exports & Imports.

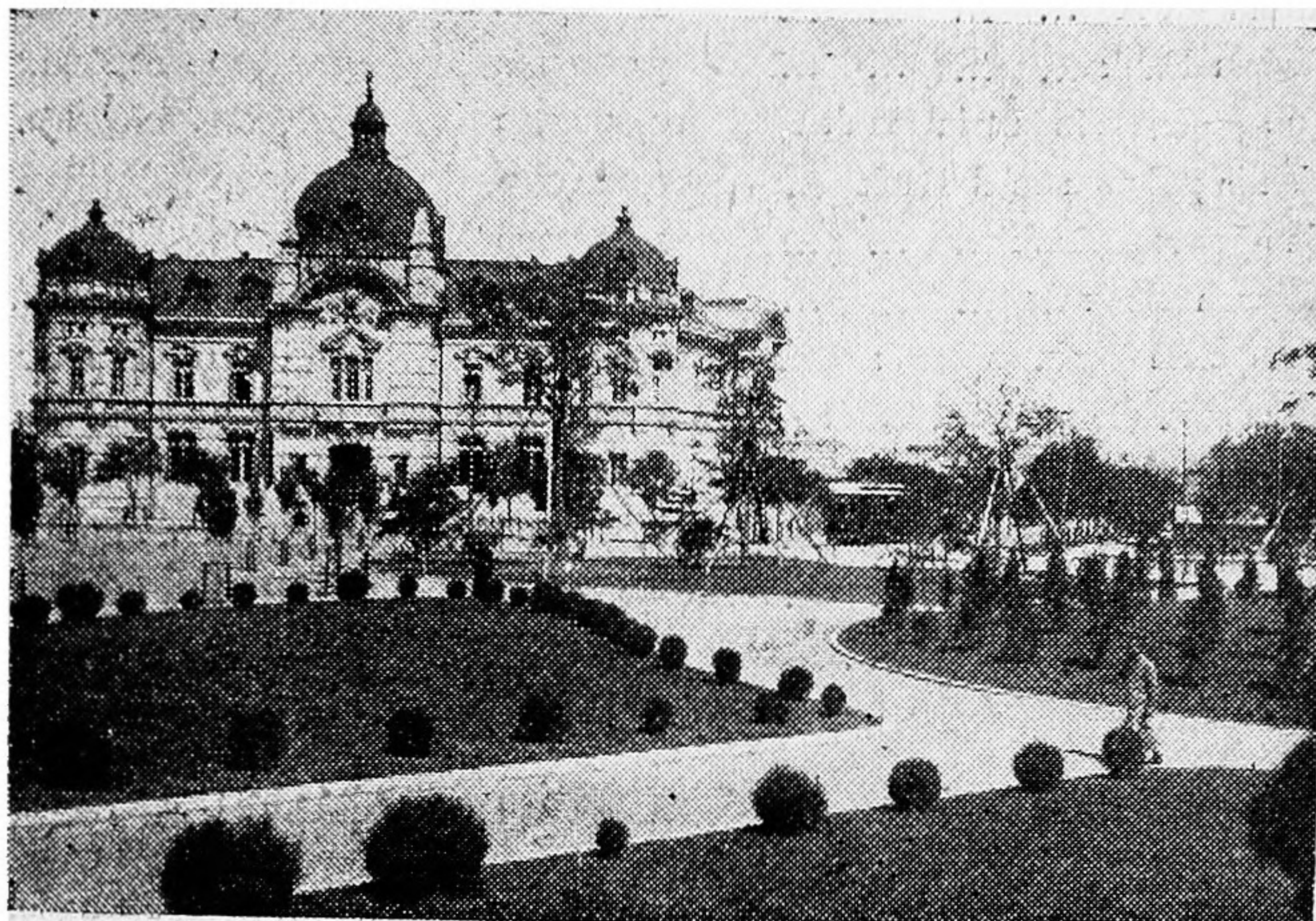
|         |           |     | Exports   | Imports   | Total     | Percentage |         |
|---------|-----------|-----|-----------|-----------|-----------|------------|---------|
|         |           |     | tons      |           |           | Exports    | Imports |
| Dairen  | { 1917... | ... | 2,429,145 | 892,061   | 2,321,186 | 73%        | 27%     |
|         | { 1918... | ... | 2,855,139 | 1,040,016 | 3,895,155 | 73%        | 27%     |
|         | { 1919... | ... | 3,125,813 | 1,509,916 | 4,635,729 | 67%        | 33%     |
| Yingkou | { 1917... | ... | 104,153   | 44,957    | 149,110   | 70%        | 30%     |
|         | { 1918... | ... | 145,191   | 76,358    | 221,549   | 66%        | 34%     |
|         | { 1919... | ... | 166,308   | 100,002   | 266,310   | 63%        | 37%     |
| Antung  | { 1917... | ... | 22,489    | 295,747   | 318,236   | 7%         | 93%     |
|         | { 1918... | ... | 30,060    | 165,105   | 195,165   | 15%        | 85%     |
|         | { 1919... | ... | 101,872   | 283,739   | 385,611   | 27%        | 73%     |

The leading mercantile firms include the Mitsui Bussan Kaisha, the Suzuki & Co., the Okura & Co., the Mitsubishi, and the Kodera & Co.



**BANKS.** In Manchuria, there are such foreign banks operating as the Russo-Asiatic Bank, the Hongkong & Shanghai Banking Corporation, the International Banking Corporation, etc.

Among the Japanese banks, the Bank of Chosen is authorized to issue convertible notes having a compulsory circulating power among the Japanese, whilst the Yokohama Specie Bank is authorized



Dairen Branch, Yokohama Specie Bank on Central Circle.

to issue convertible notes to the end of converting the Japanese gold currency into the silver currency which is native in Manchuria. Both banks occupy each a special position.

#### List of Japanese Banks.

|                              | Authorized<br>capital | Paid up<br>capital | Branches                                                                                                                                                                   |
|------------------------------|-----------------------|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bank of Chosen ... ..        | ¥80,000,000           | ¥50,000,000        | Dairen, Antung, Fengtien (Mukden), Tiehling, Kaiyuan, Ssupingkai, Chengchiatun, Changchun, Harbin, Kirin, Yingkou, Ryojun (Port Arthur), Liaoyang, & Lungching (Chientao). |
| Yokohama Specie Bank ... ..  | 100,000,000           | 100,000,000        | Dairen, Fengtien (Mukden), Kaiyuan, Changchun, Harbin, & Yingkou.                                                                                                          |
| Chenglung Bank ... ..        | 20,000,000            | 9,500,000          | Dairen, Yingkou, Fengtien (Mukden), Port Arthur, Changchun, Kaiyuan, Fushun, Chinchow, Chengchiatun, & Ssupingkai.                                                         |
| Dairen Bank ... ..           | 3,000,000             | 2,000,000          | Dairen, Lishan & Kaiyuan.                                                                                                                                                  |
| Liaotung Bank... ..          | 3,000,000             | 1,575,000          | Dairen, Chinchou, Pulantien, Wafangtien, & Pitsuwo.                                                                                                                        |
| Lungkou Bank... ..           | 11,000,000            | 4,862,500          | Dairen, Lungkou, Harbin, Tsingtao, & Kungchuling.                                                                                                                          |
| Dairen Commercial Bank ...   | 2,000,000             | 1,954,500          | Dairen.                                                                                                                                                                    |
| Educational Savings Bank ... | 500,000               | 200,000            | Dairen & Tokyo.                                                                                                                                                            |
| Peoples Bank ... ..          | 3,100,000             | 3,100,000          | Dairen.                                                                                                                                                                    |
| Ryojun Bank ... ..           | 1,500,000             | 487,500            | Ryojun & Dairen.                                                                                                                                                           |



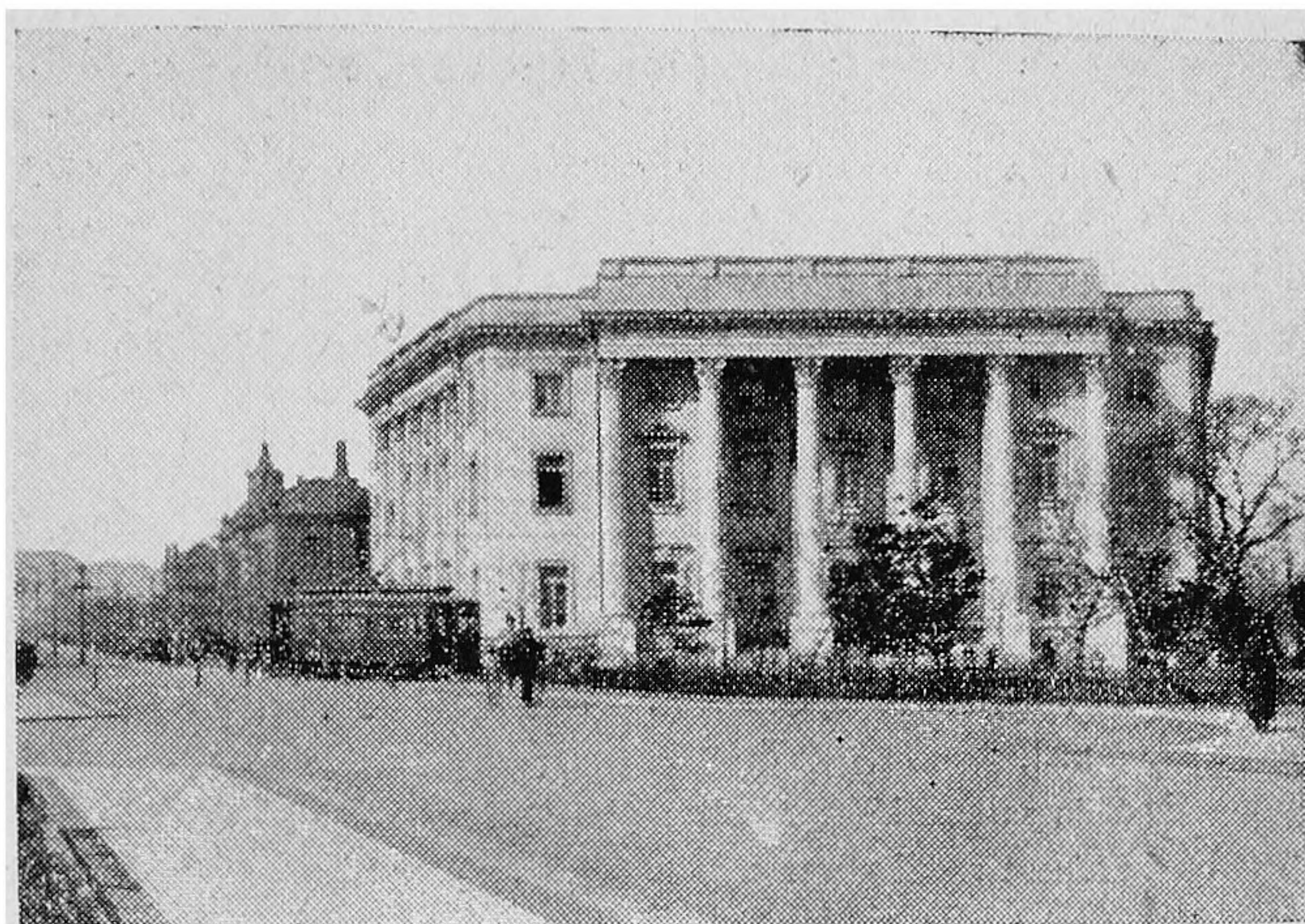
|                                                | Authorized<br>capital            | Paid up<br>capital               | Branches                                                                                                   |
|------------------------------------------------|----------------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------|
| South Manchuria Bank ... ..                    | 1,500,000                        | 375,000                          | Anshan.                                                                                                    |
| Anzan Bank ... ..                              | 1,000,000                        | 250,000                          | Anshan.                                                                                                    |
| Fushun Bank ... ..                             | 3,000,000                        | 750,000                          | Fushun.                                                                                                    |
| Sino-Japanese Industrial Bank...               | 10,000,000                       | 2,500,000                        | Mukden.                                                                                                    |
| Tiehling Commercial Bank ...                   | 1,000,000                        | 250,000                          | Tiehling.                                                                                                  |
| Sino-Japanese Bank ... ..                      | 1,000,000                        | 1,000,000                        | "                                                                                                          |
| Kaiyuan Bank... ..                             | 1,000,000                        | 500,000                          | Kaiyuan.                                                                                                   |
| Changchun Business Bank ...                    | 1,000,000                        | 400,000                          | Changchun.                                                                                                 |
| Manchuria Commercial Bank...                   | 1,400,000                        | 1,400,000                        | Mukden, Antung, & Fanchiatun.                                                                              |
| Harbin Bank ... ..                             | 500,000                          | 125,000                          | Harbin.                                                                                                    |
| Pingho Bank ... ..                             | 1,000,000                        | 250,000                          | Kirin.                                                                                                     |
| Bank of China... ..                            | 60,000,000                       | 12,366,355                       | Mukden, Dairen, Yingkou, Antung, Liaoyang, Changchun, Kaiyuan, Tiehling, Kirin, Chengchiatun, and Harbin.  |
| Bank of Communications ...                     | Tl. 15,000,000                   | Tl. 7,500,000                    | Mukden, Dairen, Yingkou, Antung, Liaoyang, Changchun, Kaiyuan, Kirin, Chengchiatun, Harbin, & Ssuping kai. |
| Three Eastern Provincial Bank, ¥               | 600,000                          | ¥ 600,000                        | Mukden, Yingkou, Liaoyang, Tiehling, Kaiyuan, Changchun, Antung, and Kungchuling.                          |
| Mukden Industrial Bank... ..                   | S.¥1,300,000                     | S.¥1,300,000                     | Mukden, Liaoyang, Tiehling, and Kaiyuan.                                                                   |
| Kirin Provincial Bank ... ..                   | ¥ 30,000<br>1,500,000 tiaos      | ¥ 30,000<br>1,500,000 tiaos      | Kirin, Changchun, and Harbin.                                                                              |
| Heilungkiang Provincial Bank...                | 17,000,000 ,,                    | 50,000,000 ,,                    | Tsitsihar, Mukden, Tiehling, Kaiyuan, Changchun, & Harbin.                                                 |
| Frontier Development Bank ..                   | S.¥2,000,000                     | —                                | Mukden, Yingkou, Liaoyang, Tiehling, Kaiyuan, Changchun, Kirin, & Chengchiatun.                            |
| Huafu Development Bank ...                     | ¥6,000,000                       | —                                | Mukden & Yingkou.                                                                                          |
| Yitung Bank ... ..                             | G.¥1,000,000                     | G.¥250,000                       | Changchun.                                                                                                 |
| Kuanghsin Kungsu ... ..                        | Tl. 500,000                      | Tl. 500,000                      | Tsitsihar.                                                                                                 |
| Pinkiang Savings Bank ... ..                   | ¥ 1,000,000                      | ¥ 620,000                        | Harbin.                                                                                                    |
| Harbin Commercial Bank ...                     | 2,500,000                        | 1,262,250                        | "                                                                                                          |
| Yushang Bank ... ..                            | 5,000,000                        | 2,500,000                        | "                                                                                                          |
| Pinkiang Sanhsin Bank ... ..                   | 2,500,000                        | 1,250,000                        | "                                                                                                          |
| Pinkiang Business Bank... ..                   | 2,500,000                        | 1,000,000                        | "                                                                                                          |
| Three Eastern Provincial Bank.                 | 8,000,000                        | —                                | Harbin, Mukden, & Changchun.                                                                               |
| Russo-Asiatic Bank... ..                       | { Rl.45,000,000<br>Tl. 3,500,000 | { Rl.45,000,000<br>Tl. 3,500,000 | Petrograd, Dairen, Harbin Changchun, Hailar, Manchouli, Newchwang, and Yingkou.                            |
| Hongkong & Shanghai Banking Corporation ... .. | { S.¥15,000,000<br>S.¥15,000,000 | { S.¥15,000,000<br>S.¥15,000,000 | Hongkong, Shanghai, Yingkou, Dairen, and Harbin.                                                           |

OTHER FINANCING MEDIUMS. On the Chinese side there are private banks, exchange brokers, etc. Exchange brokers engage in speculative deals in

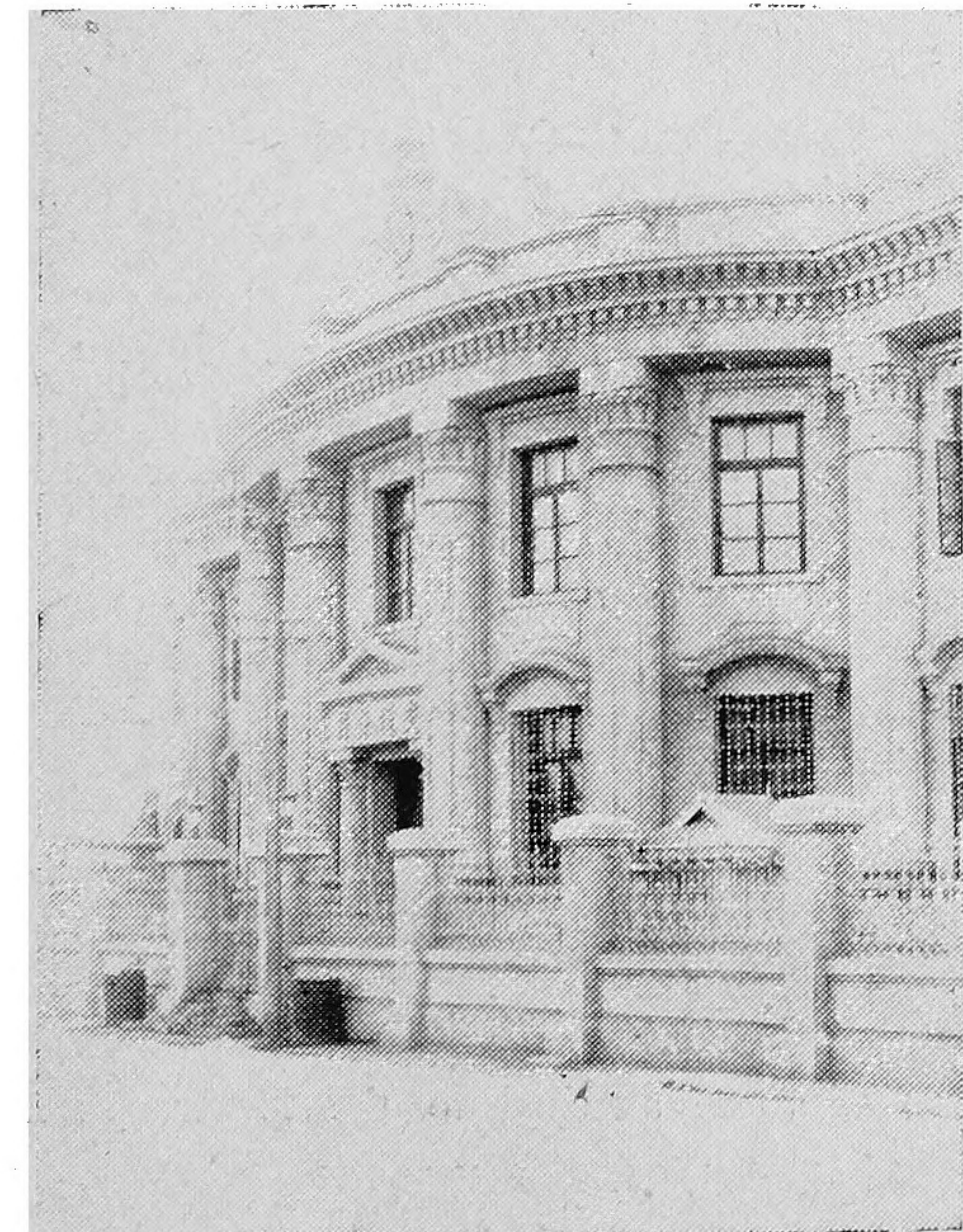


foreign moneys and render exchange and loan services. Many of the Chinese banks organized in modern style issue convertible notes.

With the development of the economic China in recent years, the demand for capital



Dairen Branch of Bank of Chosen on Central Circle.



Bank of Communications, Fengtien (Mukden).

for exchange and loan services has increased, and as a means of meeting the sore needs of the hour, the Chinese banks often resort to the issuance of bank notes. The reckless issue of these notes always take from the stability of the financial market, and what is styled convertible notes are in fact non-convertible.

**CURRENCIES.** As above stated, in Manchuria there are Currency Exchanges on which currencies are dealt in because of there being so many kinds of currencies in circulation.

Lately, gold notes of the Bank of Japan and the Bank of Chosen are gaining in circulation.

The following gives a review of the currencies circulating in Manchuria :—



### (1) Native Currencies.

Copper: In Fengtien Province, 160 cashes are equivalent to 1 *tiao*; in Kirin Province, 500 cashes make 1 *tiao*.

Provincial Copper notes circulate in Kirin and Heilungkiang Provinces.

Originally these notes were convertible into copper cash, but have now become inconvertible.

Silver: Sycee;

The silver percentage and weight varies according to places.

For instance, Yingkou tael weighs 552.06784 grains of silver of 992 in purity.

Transfer Money;

This system is maintained at Yingkou. It is a trust account institution based on Yingkou tael.

Chinese small silver coins; 339.964128 grains of silver is reckoned as 10 sen.

Chinese small silver coin notes; They are bank notes based upon Chinese small silver coins

Large dollars; 374.4 grains are reckoned as S.¥ 1.

Large dollar notes; They are bank notes based on large dollars.

*Tiehtzu*; They are notes payable at sight, based on Chinese small silver coins.

### (2) Foreign Currencies.

Silver: 1 ¥ Silver; It is the old Japanese silver yen coin and weighs 375.13136 grains.

Silver notes of Yokohama Specie Bank; they are convertible notes supported on ¥ 1 silver coins.

Mexican Dollars; Each weighs 374.97 grains.

Gold: Bank of Japan notes; 11.574 grains of gold are accepted as ¥1, and the Bank of Japan notes are supported on the ¥1 coins.

Bank of Chosen notes; They are convertible notes supported on Bank of Japan notes.

Japanese subsidiary coins; They are subsidiary coins to the Japanese gold coins.

Russian rouble notes; 11.948 grains are reckoned as 1 rouble, and rouble notes were supported on these coins. But since the Russian Revolution these notes have practically become non-convertible.

Russian subsidiary coins; They are subsidiary coins to the rouble.

TRUST & GUARANTY BUSINESS. As financing mediums outside the banks, there are the Oriental Development Co. and the Eastern Provinces Enterprise Co., each of which has its own functions to perform.

In addition, trust & guaranty companies are attached to the Exchanges at Dairen, Liaoyang, Tiehling, Kaiyuan, Ssupingkai, Kungchuling, Changchun, and Yingkou.

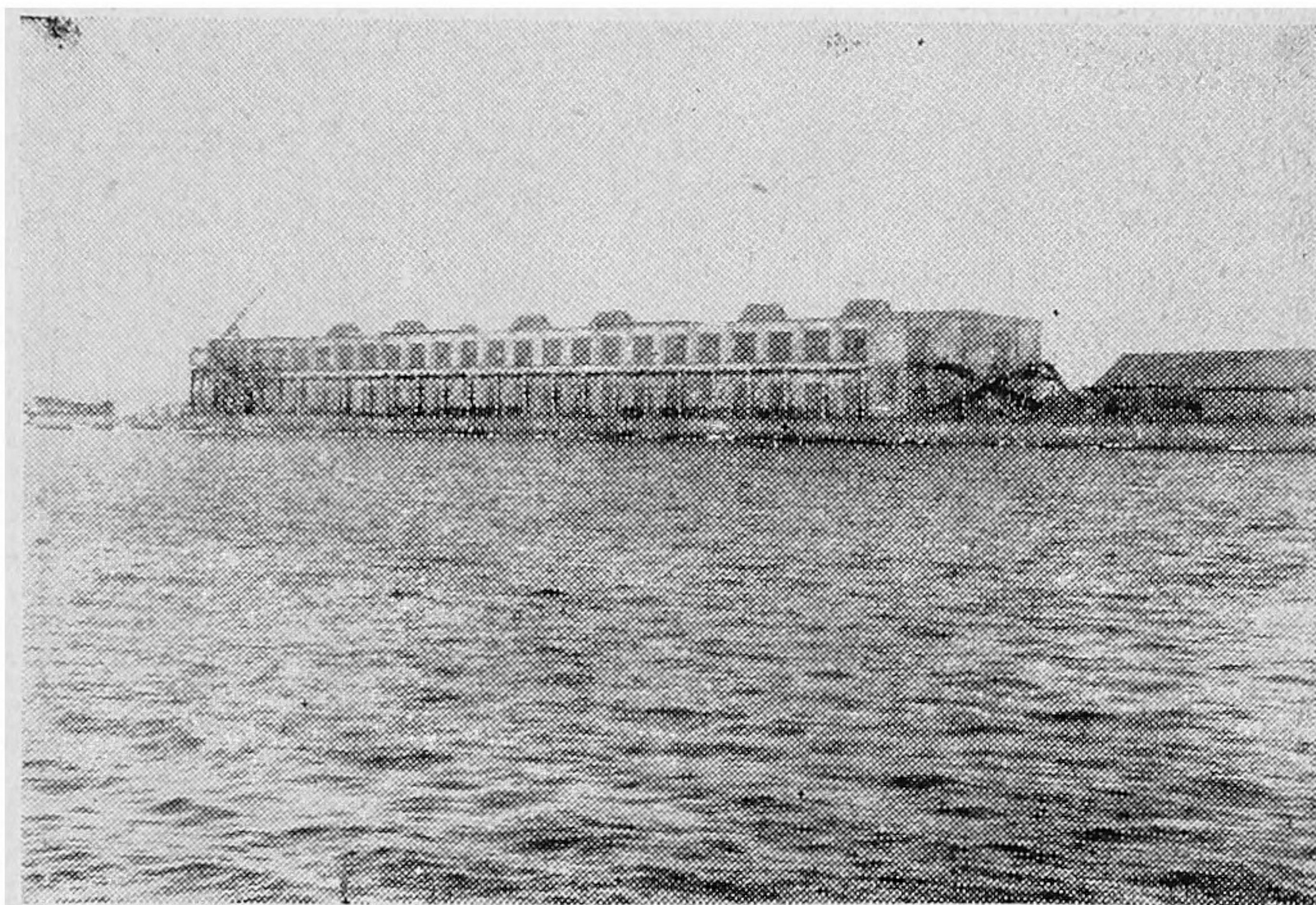
While the War time inflation lasted, many security & bond companies were founded. There are thirteen companies belonging to this class at Dairen;



four at Antung; two at Fengtien (Mukden); and one each at Wafangtien, Tashihchiao, Anshan, Liaoyang, Tiehling, Kaiyuan, Changchun, Fushun, and Yingkou.

**WAREHOUSING BUSINESS.** The South Manchuria Railway Company is engaged in warehousing business at the Dairen Wharves and the principal stations along the S. M. R. Lines.

Unlike ordinary warehousing business, the transportation by railway of the goods accepted into custody as well as the storage of goods that have arrived by railway are undertaken, and in order to distinguish them from ordinary warehousing



Goods sheds and Warehouses, Dairen Wharves.

ing business, the goods are taken into custody under either Despatch Storage or Arrival Storage.

Then there are two ways of custody, that is, under cover and in the open.

As regards Bean Cake, the Mixed Storage system has been instituted and this system has been extended to Beans, and also to wheat put out in Manchuria and carried by railways to Dairen (the last mentioned taking effect from October 1st, 1921),

The general warehousing business has become developed only recently.

At Dairen there are the Fukusho Co., Enterprise Co. and Dairen Warehousing Co., in addition to South Manchuria Warehousing & Building Co., and Manchuria Transportation & Warehousing Co.

At Fengtien (Mukden) there are the South Manchuria Warehousing & Trust & Guaranty Co. and Mukden Forwarding & Warehousing Co. Fushun, too, has a warehousing company; so has Changchun, Kirin, and Chengchiatun.



Yingkou has a warehousing & steamship company. Pitsuwo, in the northeastern part of the Kwantung Leased Territory, also has one.

Harbin has two warehousing companies (Japanese).

**INSURANCE BUSINESS.** No insurance company of Manchurian origin yet exists. All are either branches or agencies of insurance companies of Japan or elsewhere.



On Dairen Wharves (Beans & Bean Cake in open storing ground).

In life insurance, the Teikoku, Chi-yoda, Meiji, Niss-hin, Daiichi, etc., are the most active; in the line of fire insurance, the Meiji, Tokyo, Nippon, Yokohama, etc., are leading concerns. In addition, a number of foreign insu-

rance companies are doing business.

What calls for special mention is the insurance of goods at the Dairen Wharves under the custody of the S. M. R. Co. The Railway Company undertakes the insurance of these goods unasked and without the consent of the owners.

In the case of the open storage goods, however, the Railway Company holds itself liable to the extent of 30%, the balance of 70% being borne by the Insurance Companies concerned jointly.

**TRANSPORTATION BUSINESS.** The goods and passenger traffic returns of the South Manchuria Railway, which serves as the artery of the economic system of Manchuria, are as follow:—

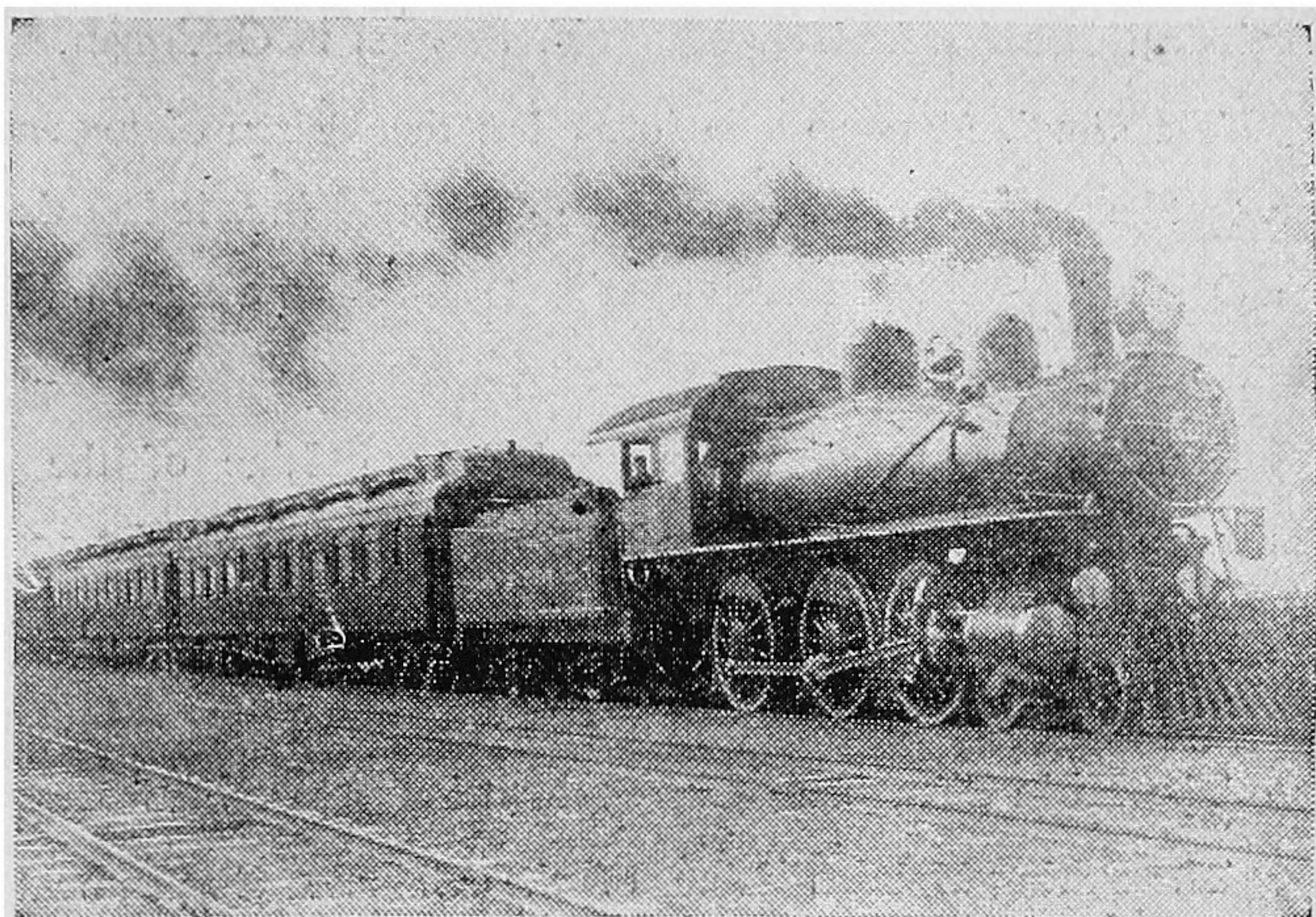
|                                | Main Line      | Mukden-Antung Line | Total           |
|--------------------------------|----------------|--------------------|-----------------|
| Average working mileage ... .. | 524.5 miles    | 171.4 miles        | 686.3 miles     |
| Passengers ... ..              | 7,409,333      | 1,130,083          | 8,123,411       |
| Goods ... ..                   | 9,832,644 tons | 1,780,024 tons     | 10,154,259 tons |

The above are the returns for the six months from April, 1919, to March, 1920.



As general forwarding agents, there are the Manchuria Forwarding Co., Yamaguchi Forwarding Agency, Dairen Forwarding Co., etc., in addition to Dairen Marine Transportation, Taisho Marine Transportation, and Shantung Transportation.

Along the S. M. Railway lines, there are the Changchun Forwarding Co., at Changchun, the Antung Marine Transportation Co. at Antung, the



South Manchuria Railway Express train.

Anshan Transportation Co. at Anshan, the Pulantien-Pitsuwo Motor Car Transportation Co., etc.

The transportation business is, in some cases, carried on by some of the trust & guaranty companies.

## X. Communications.

RAILWAYS. That Manchuria has been pushed to the fore before the world is owing to the construction of railways through the length of Manchuria by Russia as part of her Far Eastern policy.

At present, the Russians are operating the Chinese Eastern Railway, whose Southern Section (from Harbin to Kwanchengtzu) connects at Changchun with the South Manchuria Railway.

The main line of the Chinese Eastern Railway connects with Vladivostok via the Ussuri Line connecting at Pogranichnaya. On the west, the Line connects at Manchouli with the Trans-Baikal Line, and it is said that an interlineal agreement between the Chinese Eastern and the Trans-Baikal Lines for running regular trains between Vladivostok and Chita is rumoured to have been concluded.



The Chinese Eastern Railway itself is now being worked conjointly between the Russians and the Chinese, and also lies under the supervision of the Interallied Technical Board, of which Mr. J. F. Stevens is Chairman.

The South Manchuria Railway has the Dairen-Changchun Line for the main line, and in addition to the Mukden-Antung Line, it has three branch lines; viz., the Dairen-Ryojun (Port Arthur), the Tashihchiao-Yingkou (Newchwang), and the Hunho-Fushun.

Besides, there is the Ssupingkai-Taonan Line of the Chinese Government Railways, of which a 35 mile section from Chengchiatun (at 55 miles from Ssupingkai on the S. M. R. main line) westward to Talinyingtzu is to be opened to provisional traffic in November, 1921.

The Kirin-Changchun Line, too, belongs to the Chinese Government.

The Peking-Mukden Line of the Chinese Government Railways has been constructed mostly on British capital and the posts of Traffic Manager and Chief Accountant are held by Britishers.

The following is a table giving the Railways in existence in Manchuria:—

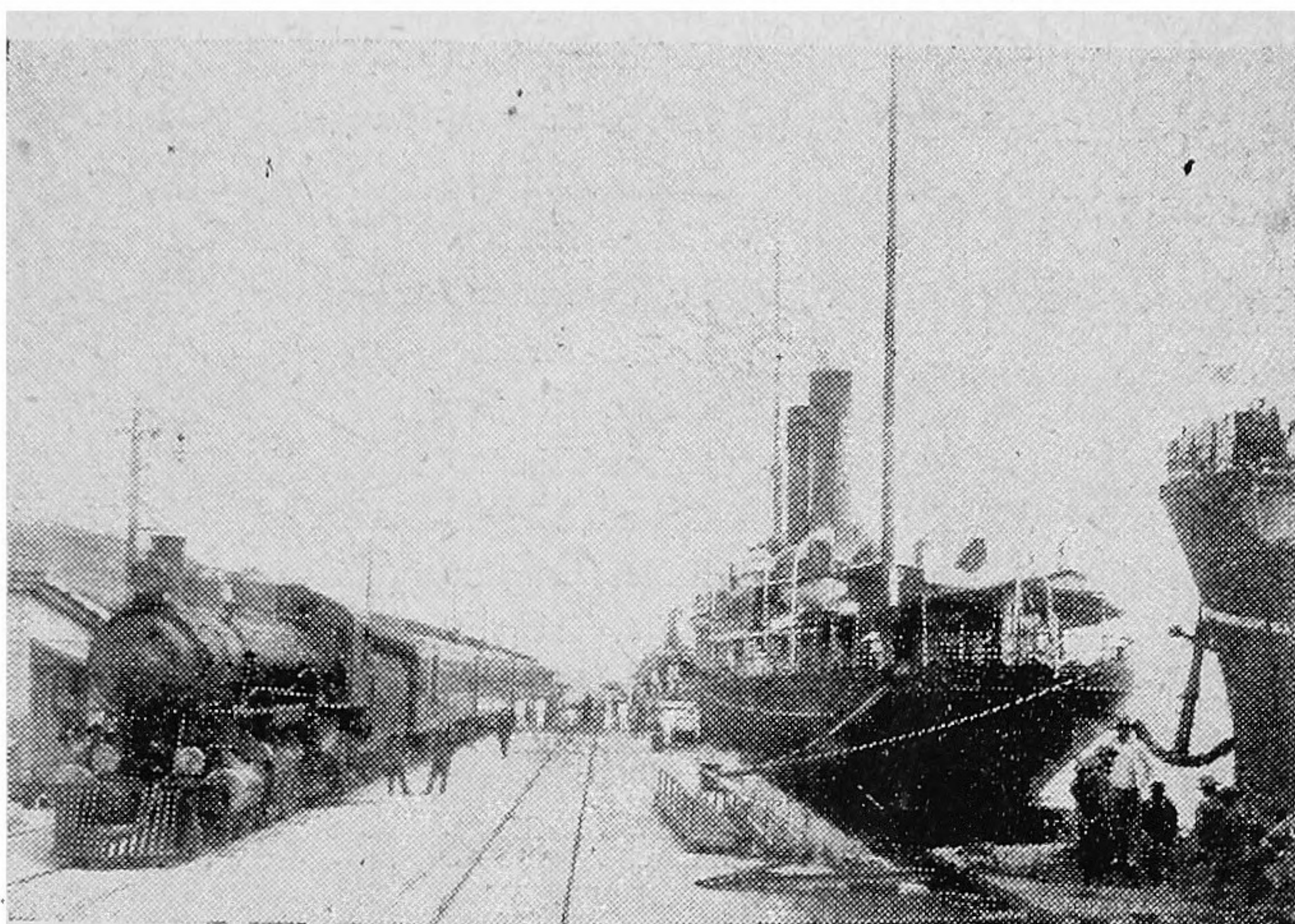
|                                                                   | versts |                                                                             |
|-------------------------------------------------------------------|--------|-----------------------------------------------------------------------------|
| Chinese Eastern Railway (Western Section) Manchouli-Harbin ... .. | 876    | under Russo-Chinese<br>Management                                           |
| (Eastern Section) Harbin-Pogranichnaya ... ..                     | 512    |                                                                             |
| (Southern Section) Harbin-Kwanchengtzu ... ..                     | 222    |                                                                             |
| Jalainor Colliery Branch line ... ..                              | 7      |                                                                             |
| Total ... ..                                                      | 1617   | versts                                                                      |
|                                                                   | miles  |                                                                             |
| South Manchuria Railway, Main Line, Dairen-Changchun ... ..       | 439    | under Management<br>South Manchuria<br>Railway Company.                     |
| Mukden-Antung Line, Suchiatun-Antung ... ..                       | 162    |                                                                             |
| Ryojun (Port Arthur Branch, Choushuitzu-Ryojun) ... ..            | 29     |                                                                             |
| Fushun Branch, Hunho-Fushun ... ..                                | 33     |                                                                             |
| Yingkou Branch, Tashihchiao-Yingkou ... ..                        | 14     |                                                                             |
| Yentai Colliery Branch, Yentai-Yentai Colliery ... ..             | 9      |                                                                             |
| Total ... ..                                                      | 686    | miles                                                                       |
| Kirin-Changchun Line, Changchun-Kirin ... ..                      | 79     | Chinese Government<br>Railways<br>under management of<br>Chinese Government |
| Ssupingkai-Taonan Line, Ssupingkai-Chengchiatun ... ..            | 55     |                                                                             |
| Part of Peking-Mukden Line, Mukden-Shanhaikwan ... ..             | 261    |                                                                             |
| Yingkou Branch Line, Yingkou-Koupantzu ... ..                     | 57     |                                                                             |
| Total ... ..                                                      | 452    | miles.                                                                      |



Remark: As above referred to, the Ssupingkai-Taonan Line is having an extension from Chengchiatun under construction, and a 35 mile section is about to be opened for traffic shortly.

As may be seen from the above table, there are now over 2700 miles of railway in South and North Manchuria.

When the Kirin - Kwainai Railway starting at Kirin and terminating at Kwainai (Chosen, Korea), together with the five proposed Railways in South Manchuria and Inner Mongo-



Railway and Steamer connection at Dairen Wharves.

lia, in the event of their being completed and opened for operation, something like 1500 miles more of railway will be added.

**WATERWAY.** The port of Dairen handles 5,000,000 tons of goods a year. The nucleus of the present Dairen port was constructed by the Russians at the cost of about 10,000,000 roubles. The South Manchuria Railway Company has taken up the work left incomplete, and had, up to the end of the fiscal year 1920, laid out the sum of 32,000,000. At present, the total berthing accommodation is put roughly at 200,000 tons at a time.

The total length of the quay line is about 14,000 ft.

In the Dairen Wharf compound, there are 70 warehouses and goods sheds, comprising the total floor area of 78,892 *tsubo* in addition to the open storing ground of about 100,000 *tsubo*. The aggregate storing capacity consists of 350,000 tons under cover and 400,000 tons in the open.

The vessels having access to the Dairen Wharves have increased annually, and in the fiscal year 1920, they totalled 2,944 ships amounting to 5,292,239 tons.

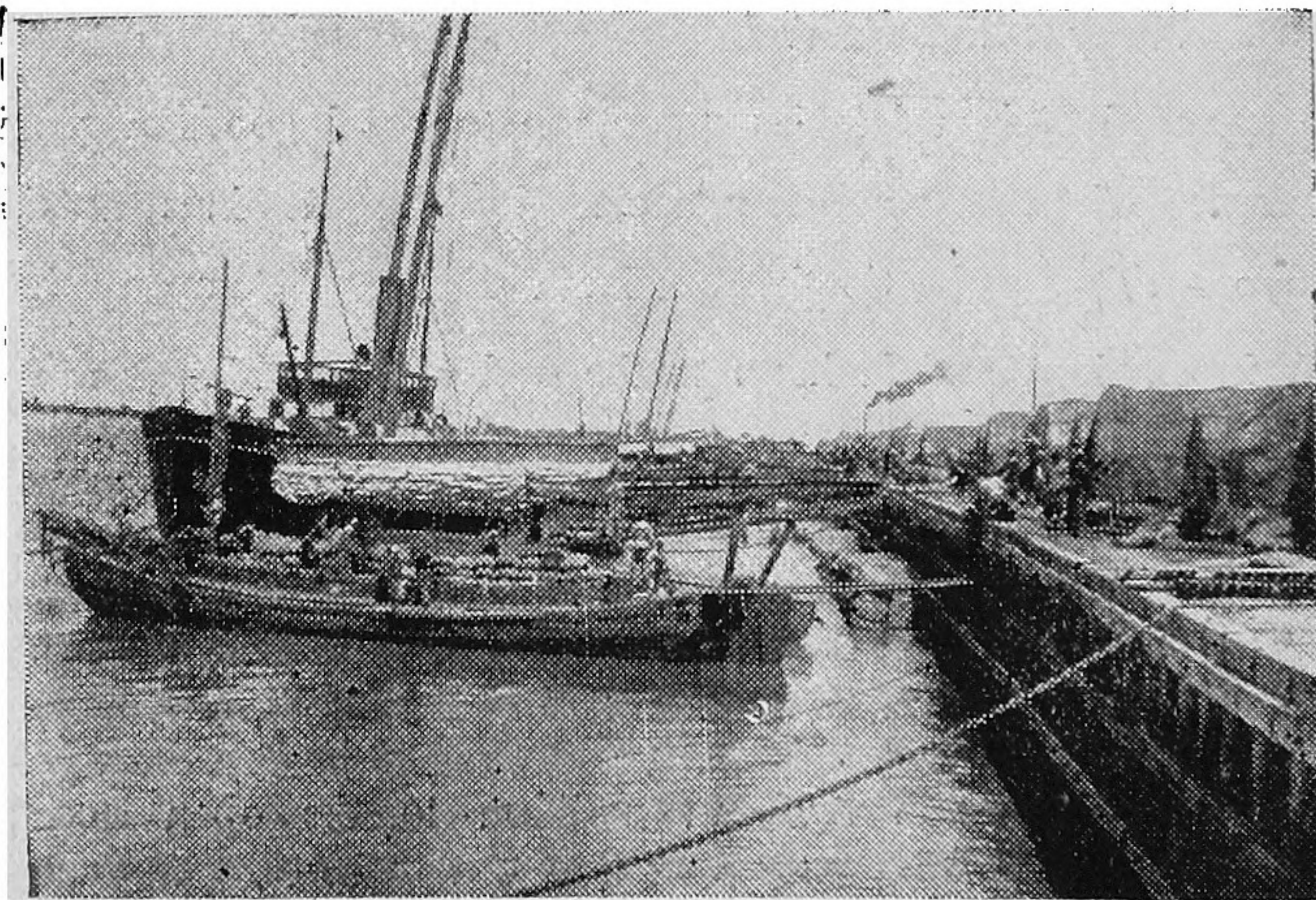


The following regular steamship lines either radiate from Dairen or have Dairen among the ports of call.

|                                       |                            | Steamers |                      |
|---------------------------------------|----------------------------|----------|----------------------|
| 1) Toyo Kisen Kaisha,                 | North American Line,       | 2        | Once monthly         |
|                                       |                            | 6        | Twice monthly        |
| Osaka Shosen Kaisha,                  | Osaka-Dairen Line,         | 4        | Twice weekly         |
| Nippon Yusen Kaisha,                  | Yokohama-North China Line, | 3        | Three times weekly   |
| South Manchuria Railway }<br>Company, | Dairen-Tsingtao-Shanghai,  | 1        | Once every nine days |
| Dairen Kisen Kaisha,                  | Dairen-Antung              | 2        | 6 times a month      |
|                                       | Dairen-Tientsin            | 2        | 6 times a month      |
|                                       | Dairen-Canton (cargo)      | 1        | Once monthly         |
|                                       | Dairen-Manila              | 1        | Once monthly         |
|                                       | Dairen-Lungkou             | 1        | 6 times a month      |
|                                       | Dairen-Tsingtao            | 1        | 4 times a month      |
| Chosen Yusen Kaisha,                  | Dairen-Tsingtao-Chemulpo   | 1        | 3 times a month      |
| Towa Kisen Kaisha,                    | Dairen-Lungkou             | 1        | 5 times a month      |
| Awa Kyodo Kisen Kaisha,               | Dairen-Tsingtao            | 1        | 5 times a month      |
|                                       | Dairen-Chemulpo            | 1        | 3 times a month      |
| Chingkee (Chinese)                    | Dairen-Chefoo              | 2        | 12 times a month     |

**PORT OF YINGKOU (Newchwang).** The port of Yingkou (Newchwang) is situated on the right bank of the Liao River, 14 miles above the mouth of the River.

The wharfage is located along the River bank, the water being 30 ft. deep.



South Manchuria Railway Co.'s Wharf at Newchwang

However, as there is the bar near the mouth, ships drawing more than 17 ft. are to navigate the River on the flood tide only. When the water goes down, so much is taken off the navigable facility of the Port ; but when a flood occurs, the

River beds get altered ; and these peculiarities throw the construction of a permanent wharf out of the question.



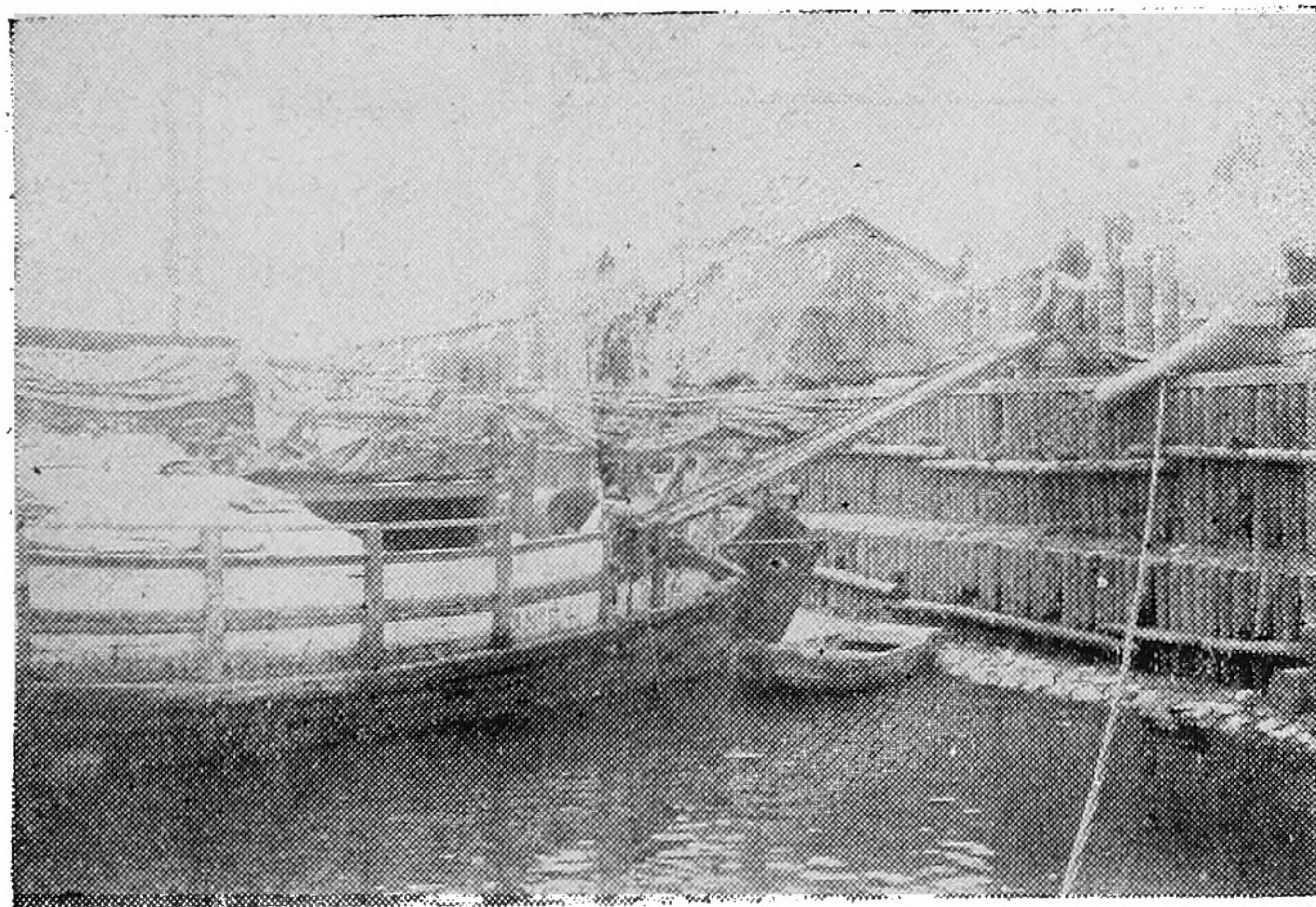
The chief drawback of the port lies in its remaining ice-bound for nearly four months from December to the ensuing March. The shipping traffic of the port has been on the decrease. The figures for 1920 were 61 ships of 50,962 tons, which, compared with those for 1913, are 210 fewer in the number of ships and 72,959 tons less in tonnage.

The navigable facility of the Yalu River flowing on the Manchuria-Korean frontier is not so large as that of the Liao River, but it has been utilized from early times for carrying downstream Beans, kaoliang, wild cocoons, and Yalu timber to Antung from the Upper Yalu.

Still the Liao, together with the Sungari and the Amur are playing an important role as trade channels in the interior of Manchuria.

In fact, prior to the advent of the railways, these three Rivers used to serve as the only means of transportation. When they get frozen over in winter, the surface by the ice turns to a highway for loaded carts facilitating the transport traffic.

ANTUNG. Antung is situated 16 miles above the mouth of the Yalu. The jetties of the shipping companies are seen along the river bank. The water is



Loading goods at Antung Wharves.

12 ft. deep on an average at low tide, and 23 ft. at flood tide. So the port cannot accommodate large-typed steamers. Moreover, there are bars below Antung, and on this account even vessels of 800 tons class have to sail on flood tide to navigate the

River up to Antung. On this account, steamers of about 1,000 tons usually have to cast anchor at Santaolangtou, 3 miles below Antung, and larger ones at Toshihtao at the mouth of the River.



The connection between Antung and these two anchorages (Santao-langtoun and Toshihtao) is effected by means of junks, lighters, and at times steam-boats.

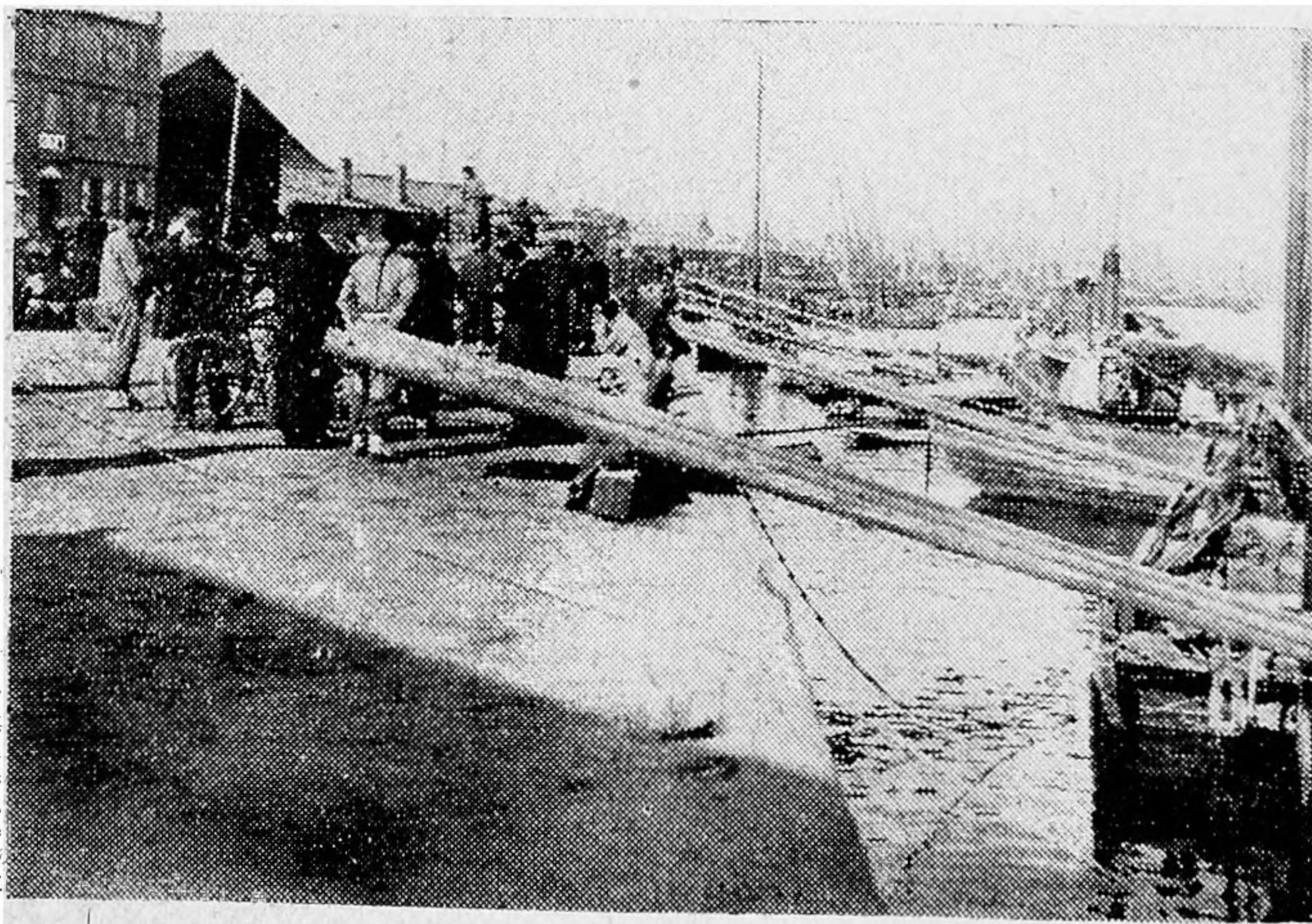
Some years ago, the river bed was dredged, but the periodical floods taking place each year have silted up the dredged parts. Therefore, if improvements are to be effected on an extensive scale, they may be applied to Toshihtao at the mouth of the River, but nowhere else.

The trade returns for 1919 were 48,337,323 Hk. tael, by the side of 54,352,572 Hk. tael for the port of Yingkou and 259,240,285 Hk. tael for the port of Dairen for the same year.

RIVERS. The navigable rivers in Manchuria and Mongolia are the Liao in the south, the Yalu in the east, and the Sungari and the Amur in the north. Still they afford less navigable facility than is generally accepted.

Both the Sungari and the Amur admit of the greatest exploitation of all the four, and furnish the largest navigable area. However, the fact that both run through the comparatively thinly populated district goes to leave their natural advantage only partially tapped.

On the other hand, the Liao empties itself below Yingkou, and the Yalu below Antung, but each has its river bed filled as time goes by with the silt



Chinese Customs, Antung.

carried down by the current, from the upper reaches, and for this reason, only junks may navigate them, excepting the small sections of the lower parts.

Before the railway appeared as the main channel of traffic, the Liao served as the only highway of trade in South Manchuria, but now its old glory has vanished. The Yalu and Liao Rivers remain ice-bound during the coldest four months of the year from December



to the following March, whilst the ice-bound period with the other two extend two months longer, that is from November to April.

This peculiarity materially takes off from their navigable assets, and it emphasizes all the more strongly the undisputed importance of railways for trade channels.

**ROADS.** The roads in Manchuria and Mongolia are mostly in the level country in their central part. As it nears the hilly regions, there are found few worth the name of roads, excepting only a small number of pack pony paths. The roads are generally ill-built and ill-kept. Especially after a rain, they are turned into bogs which will bury the cart-wheels quite up to the axle. The rivers have few bridges thrown over them. Where they are shallow permit of fording, but where the water is deep must be crossed in a boat. Such being the case, the cart traffic, which forms the principal portion of traffic in Manchuria and Inner Mongolia is carried on with no little difficulty in spring, summer, and autumn, but in winter months, say, from November to the following March, the ground as well as the rivers get frozen hard, facilitating the traffic of heavily loaded carts drawn by from three to seven head of draught animals. During the cold season, the stage inns on the highways of cart traffic are kept very busy.

In the north, in which there is much snow, sleds are used for carrying purposes.

**COMMUNICATIONS.** The communication systems in Manchuria consist of those installed by the Chinese Government and such as have been by the Japanese authorities in the Kwantung Leased Territory and the South Manchuria Railway Area. The Chinese Postal administration has earned a reputation for comparative efficiency.

The Japanese communications systems are under the control of the General Post Office of the Kwantung Government.

The following will give a resume of how the telegraphic and telephonic situation stood in 1918:—

#### Telegraphic Lines.

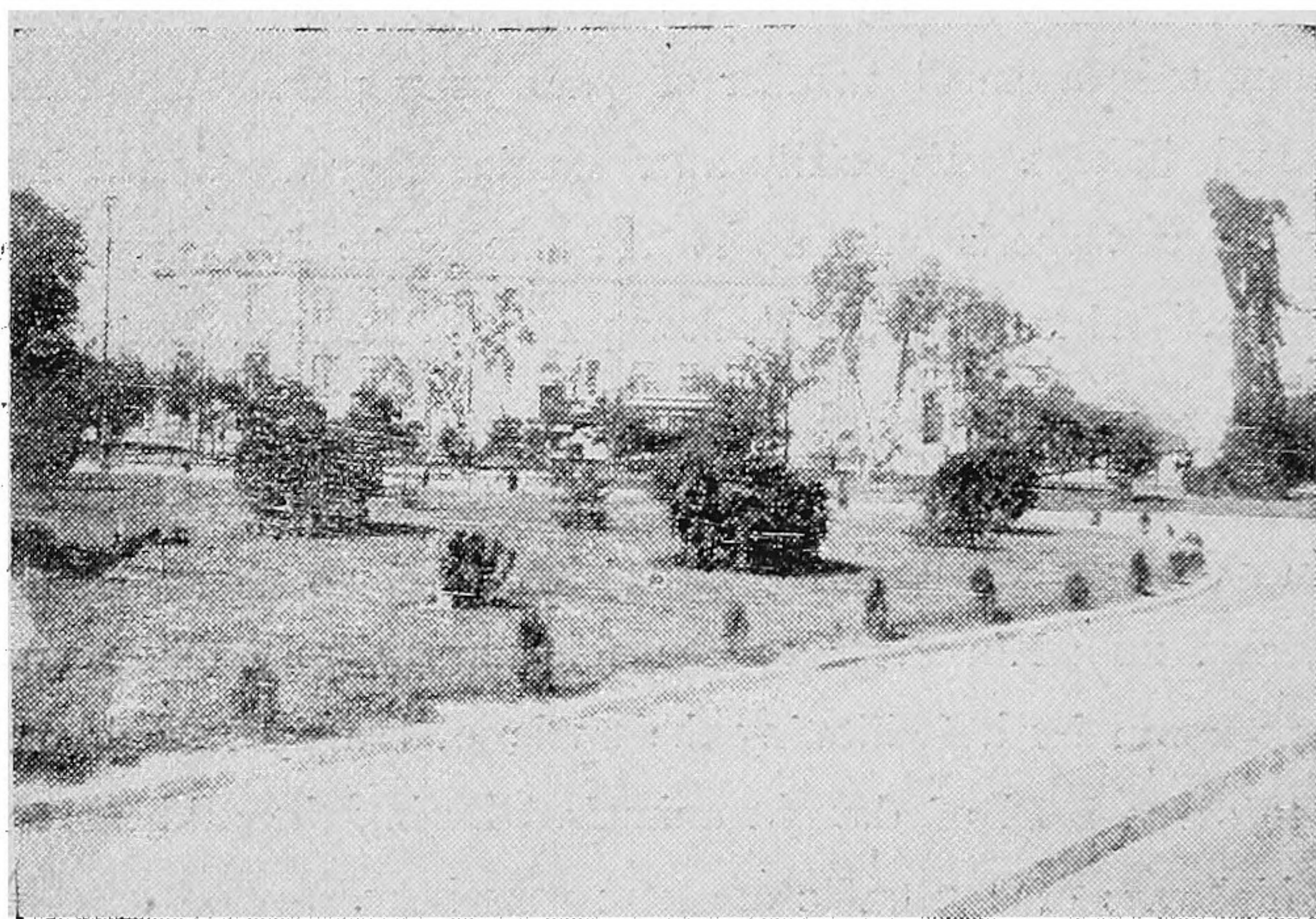
|                                     | Mileage   | Total length of lines |
|-------------------------------------|-----------|-----------------------|
| In Kwantung Leased Territory ... .. | 148 miles | 978 miles,            |
| Outside Leased Territory...         | 498 "     | 4023 "                |
| Total ... ..                        | 646 "     | 5001 "                |
| In 1920:                            | 708       | 13,079                |



### Telephonic Lines.

|                                     | Mileage   | Total length of lines |
|-------------------------------------|-----------|-----------------------|
| In Kwantung Leased Territory ... .. | 271 miles | 2188 miles.           |
| Outside Leased Territory ... ..     | 638 "     | 5583 "                |
| Total ... ..                        | 909 "     | 7771 "                |

Chinese post offices are maintained at almost every town outside the Kwantung Leased Territory, and, as already stated, is credited with a fair amount of efficiency.



General Post Office, Kwantung Government, on  
Central Circle, Dairen.

Chinese telegraphic services, too, connect the Prefectural Governments with the Provincial Government and with one another among the former, excepting a few Prefectures in the remoter parts of Kirin and Heilungkiang Provinces.

The total mileage may be placed in the neighbourhood of 3,000 miles.

Then telephone service is maintained at Fengtien (Mukden), Yingkou, Kirin, Harbin, and other cities and towns of less importance.

## XI. Administration.

**INDUSTRIAL INSTITUTIONS.** The Ministry of Agriculture and Commerce Peking, looks after all the industrial institutions in China. The Ministry has four Bureaus of the Agriculture & Forestry, the Industry & Commerce, the Mining Administration, and the Fishery and Stock Farming.

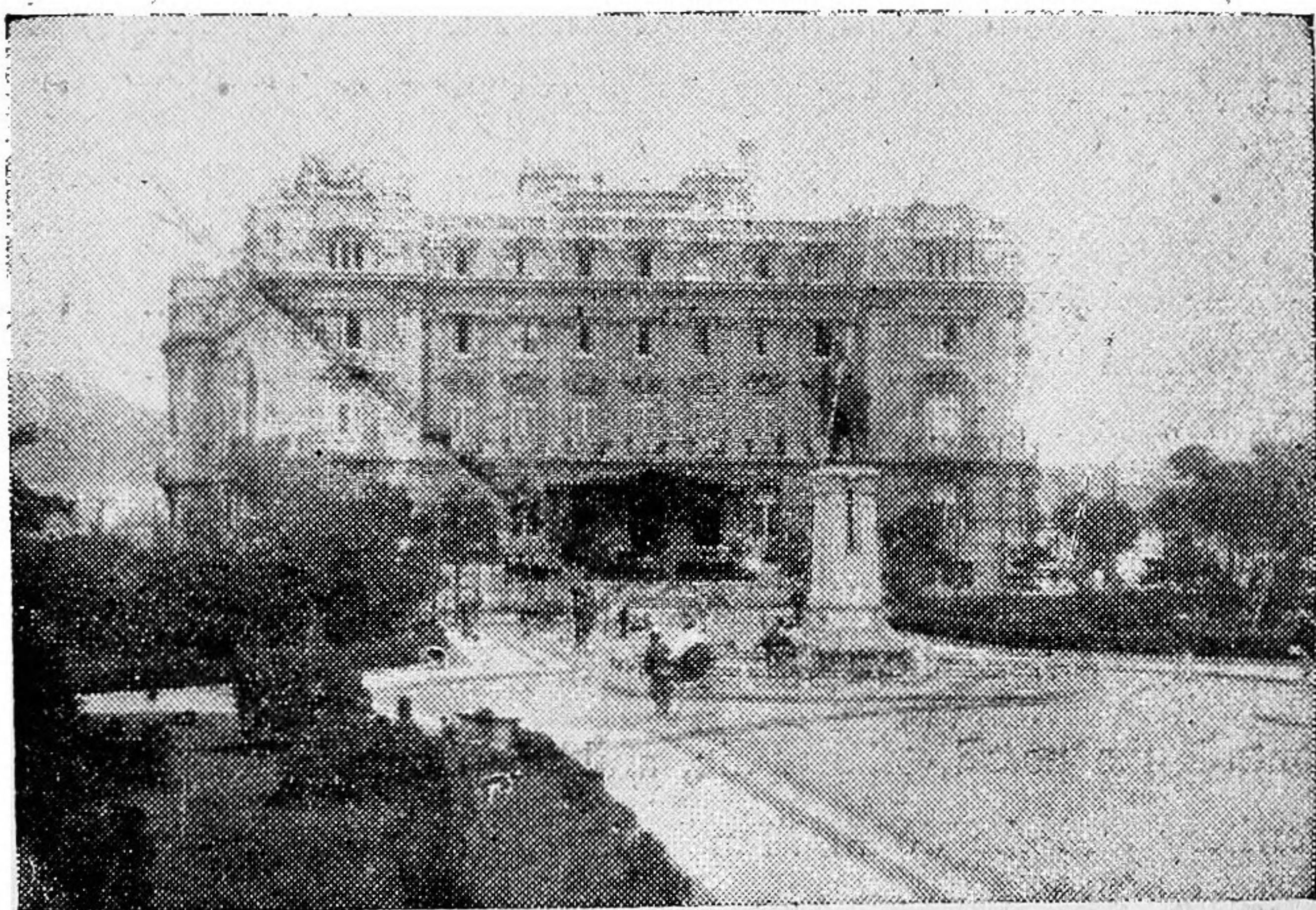
In the Provincial Governments of Manchuria at Fengtien, Kirin, and Tsitsihar, and also the Military Governments of Jehol and Chahar in Inner Mongolia, each has the Board of Industry which, under the directions of the Provincial Governor, attends to all the affairs concerning the Provincial industry.



Again, under the direct control of the Ministry of Agriculture and Commerce, there is the Forestry Office for Manchuria at Harbin, and the Mining Inspectors' Office at Changchun. The former is engaged in the investigation of the nationalized forests in Manchuria and attends to their management and disposal. The latter has charge of all the affairs concerning the mining.

These industrial institutions may mostly be called conservative.

On the Japanese side, the Kwantung Government, Ryojun (Port Arthur) has the Industrial Department among its more important units. The South Manchuria Railway Company, too, has the Industrial Office under the Local Administration Department. Each has been laying out a considerable sum of money for pursuing a positive policy in the experiment, investigation, and encouragement of ag-



Yamoto Hotel, Dairen.

riculture, forestry, stock-farming, sericulture, and commercial and industrial enterprises, and they have had satisfactory results.

**MEDIUMS OF COMMUNICATIONS.** The central directing agency of the means of communications in China is the Ministry of Communications, Peking. The Directorate General of the Government Railways forms part of the Ministry, and thereunder lie the Head Office of the Peking Mukden Line at Tientsin, that of the Kirin-Changchun Railway at Changchun, and that of the Ssupingkai-Taonan Railway at Ssupingkai.

The General Offices of the South Manchuria Railway Company are located at Dairen.

The Postal, Telegraphic, and Telephonic systems lie under control of the Director-General of Posts, Peking. The offices of the Postal and the Electricity Administrations are at Fengtien (Mukden).



The Postal Administration for Manchuria has under it five Post Offices and 114 branch post offices and 272 postal agencies. The last mentioned agencies include a good number of private postal agencies which undertake to perform the additional duties of Government agencies.

Under the Electricity Administration for Manchuria, there are maintained branch plants at the seats of the Prefectural Governments and other towns of importance. Such plants number 40 in Fengtien Province, 22 in Kirin Province, and 18 in Heilunkiang Province, totalling 90.

The Postal Administration at Fengtien (Mukden) is organized with the following:—

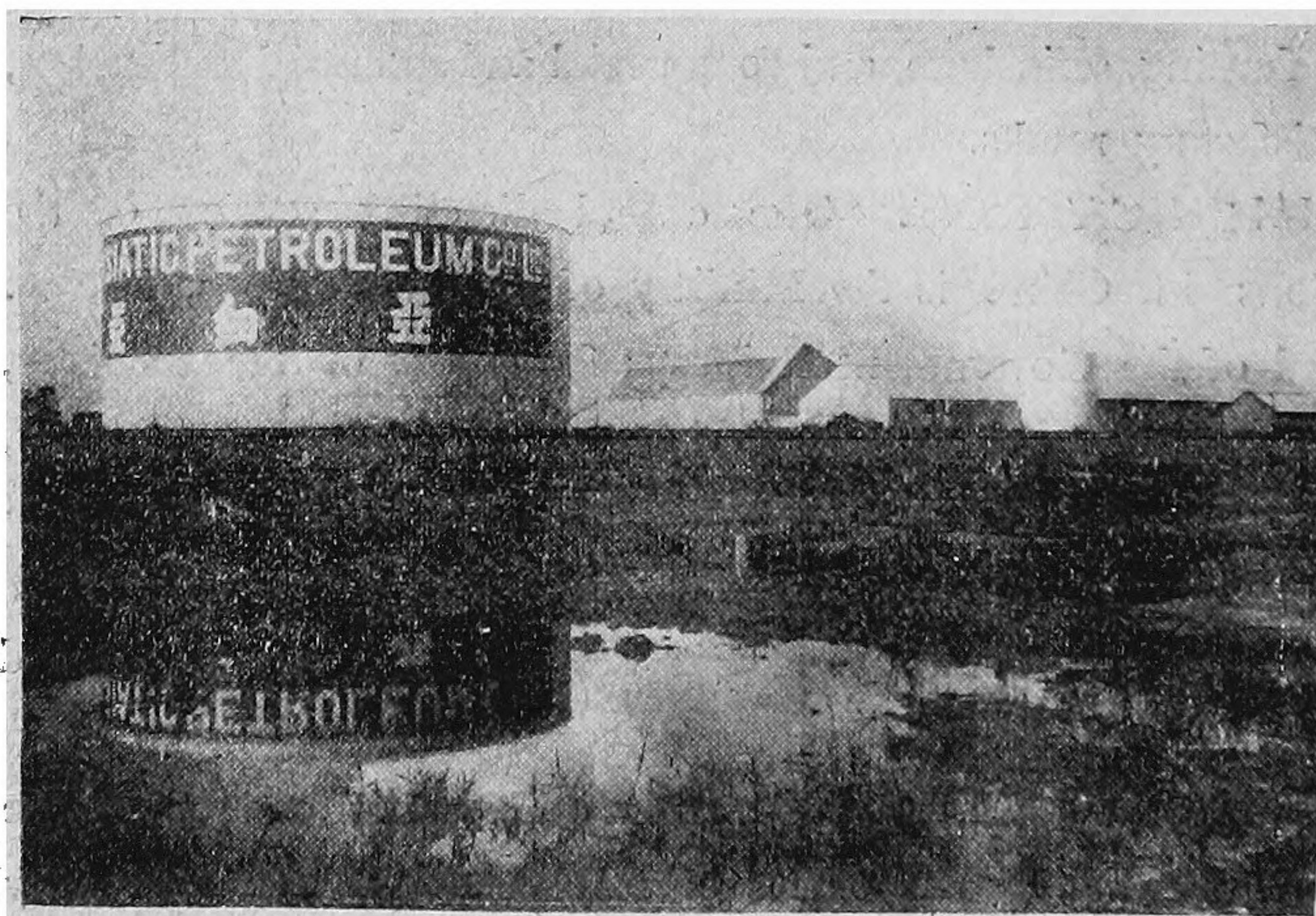
|                                     | branch offices | agencies |
|-------------------------------------|----------------|----------|
| Mukden postal administration ... .. | 47             | 84       |
| Newchwang District ... ..           | 11             | 11       |
| Harbin „ ... ..                     | 23             | 50       |
| Kwanchengtzu „ ... ..               | 24             | 110      |
| Antung „ ... ..                     | 9              | 17       |
| Total... ..                         | 117            | 272      |

The General Post Office of the Kwantung Government is at Dairen and controls the postal, telegraphic, and telephonic business in the Kwantung Leased Territory and the South Manchuria Railway Area.

Taxation system. There is the Ministry of Finance at Peking. Every

Province has the Board of Finance, under which Tax-Collectors offices are located at different points, with branch offices where necessary.

The principal kinds of taxes are land tax, revenue stamp tax, fishery tax, registration tax,



Asiatic Petroleum Co., Newchwang.



production tax, tobacco tax, liquor tax, live stock tax, license tax, timber tax, cocoon and silk yarn tax, junk tax, cereal tax, mining tax, etc.

Salt Gabelle and Customs duties, etc., are not included in the above.

It would be too much for this pamphlet to take up the detail of each tax.

To cite an instance, the privately-owned land tax is levied usually on the following lines:—

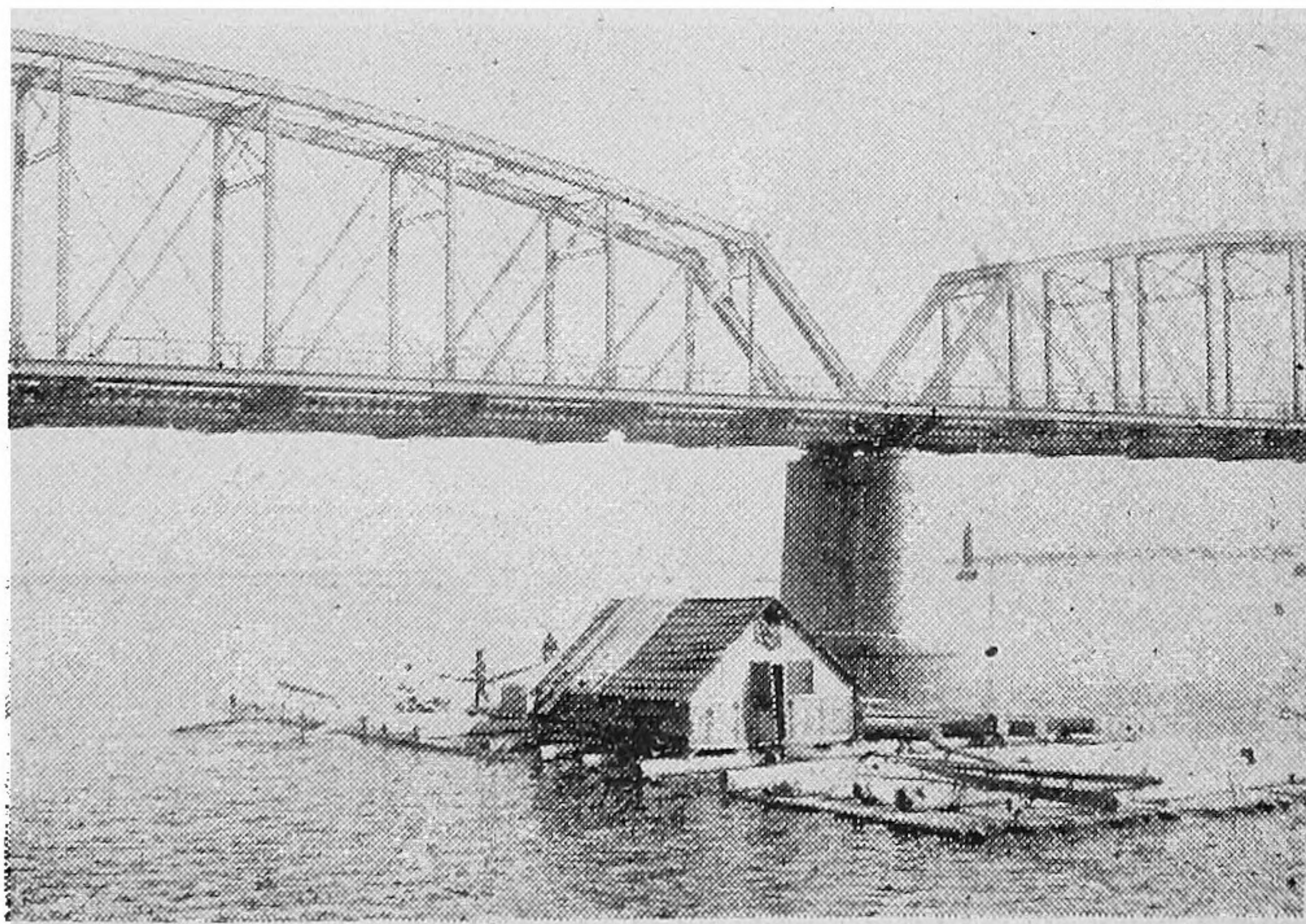
|                        |     |     |     |     |     |     |     |     |     | in large dollars<br>per <i>mow</i> | surtax, 10% of<br>principal tax. |
|------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------------------------------------|----------------------------------|
| Fine land              | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1.40                               | 0.14                             |
| Intermediate land      | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1.00                               | 0.10                             |
| Poor land              | ... | ... | ... | ... | ... | ... | ... | ... | ... | 0.60                               | 0.06                             |
| Sandy or alkaline land | ... | ... | ... | ... | ... | ... | ... | ... | ... | 0.30                               | 0.03                             |
| Nondescript land       | ... | ... | ... | ... | ... | ... | ... | ... | ... | 1.00                               | 0.10                             |

Remarks:—A fee of 5 sen is collected per item. S.¥1.20 in Chinese small silver coins is accepted for S.¥1 in large dollars.

As regards Salt Gabelle, S.¥2 in large dollars is collected; in revenue stamp tax, 1% is collected per S.¥1 and over; and 2% for S.¥10 and over.

As to Fishery tax, it is imposed according to the kinds of nets used to an amount ranging from S.¥1 to S.¥50. S.¥2 is taxed for a fishing boat, and

S.¥2.40 for every fisherman. In the registration of real estate transferred, 9% of the price at which the property has been sold is collected; for a loan service, 6% of the loan amount is levied; as production tax 1% *ad valorem* of the cereal



Rafts on the Yalu.

produce is taxed; for general goods, 1½% is taken; for consumption tax 2%; as tobacco tax, S.¥1.60 is collected per 100 *kin* of leaf tobacco and for every 10,000 cigarettes; as liquor tax, S.¥1.60 is charged per 100 *kin* of shumshu, and 80 sen for



*huangchiu*; for live stock sold, 5% of the sales price is taken for cattle, horses, and mules;  $2\frac{1}{2}\%$  for donkeys, and 2% for pigs; cocoon and silk yarn tax is levied also *ad valorem* at the rate of  $1\frac{1}{2}\%$  as production tax and 2% as consumption tax.

The above comprise only the principal taxes and there are of course surtaxes and other supplementary taxes.

**WEIGHTS AND MEASURES.** The weights and measures are manufactured at the Weight & Measure Works in the Ministry of Agriculture & Commerce, Peking. The standard weights and measures have been fixed by the existing laws of the Chinese Government.

Compared with the Japanese standards, the Chinese weights and measures are as under:—

|                 | Chinese                                                         | Japanese                  |
|-----------------|-----------------------------------------------------------------|---------------------------|
| Lineal Measure: | 1 (寸) <i>tsun</i> = 10 <i>fen</i>                               | 1.056 <i>sun</i> (寸)      |
|                 | 1 (尺) <i>chih</i> = 10 <i>tsun</i>                              | 1.056 <i>shaku</i> (尺)    |
|                 | 1 (丈) <i>chang</i> = 10 <i>chih</i>                             | 1.056 <i>jō</i> (丈)       |
|                 | 1 (里) <i>li</i> = 1800 <i>chih</i>                              | 1.900 <i>shaku</i> (尺)    |
| Cubic Measure:  | 1 (勺) <i>shao</i> = 10 (才) <i>tsai</i>                          | 5.7401 <i>sai</i> (才)     |
|                 | 1 (合) <i>ho</i> = 10 <i>shao</i>                                | 5.7401 <i>shaku</i> (勺)   |
|                 | 1 (升) <i>sheng</i> = 10 <i>ho</i>                               | 5.7401 <i>go</i> (合)      |
|                 | 1 (斗) <i>tou</i> = 10 <i>sheng</i>                              | 5.7401 <i>shō</i> (升)     |
|                 | 1 (石) <i>tan</i> = 10 <i>tou</i>                                | 5.7401 <i>to</i> (斗)      |
| Weight:         | 1 (錢) <i>chien</i> = 10 <i>fen</i>                              | 9.9444 <i>fun</i> (分)     |
|                 | 1 (斤) <i>chin</i> = 160 <i>chien</i>                            | 159.1104 <i>momme</i> (匁) |
| Area            | 1 (畝) <i>mow</i> = 10 <i>fen</i>                                | 185.856 <i>tsubo</i> (步)  |
| Lineal Measure: | 1 <i>shaku</i> (尺) is approximately equal to 1 foot             |                           |
| Cubic Measure:  | 10 <i>to</i> (斗) or 1 <i>koku</i> (石) is equal to 4.63 bushels. |                           |
| Weight:         | 120 <i>momme</i> (匁) make 1 lb.                                 |                           |
| Area:           | 1 <i>tsubo</i> (步) is equal to 36 sq ft.                        |                           |

The above are as laid down by the existing statute laws of China, but in many cases, the old systems are still retained in force. These systems vary according to places, as may be seen from the following table.

The following table gives the varying equivalents of the Japanese standard weights and measures at different places in Manchuria:—



|                   | lineal measure (for<br>native cloth)<br>1 Chinese chih (尺) | lineal measure for import<br>silk & cotton cloth<br>1 Chinese chih (尺) | lineal measure for<br>surveys & timber<br>1 Chinese chih (尺) |
|-------------------|------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------|
| Dairen .....      | —                                                          | 1.140 <i>shaku</i> (尺)                                                 | —                                                            |
| Yingkou .....     | 2.075 <i>shaku</i> (尺)                                     | —                                                                      | 1.040 <i>shaku</i> (尺)                                       |
| Antung .....      | —                                                          | 1.130 <i>shaku</i>                                                     | 1.020 „                                                      |
| Fengtien (Mukden) | 1.750 <i>shaku</i>                                         | 1.140 „                                                                | 1.050 „                                                      |
| Kaiyuan .....     | 2.075 „                                                    | 1.154 „                                                                | —                                                            |
| Liaoyang .....    | 1.842 „                                                    | 1.147 „                                                                | 1.050 „                                                      |
| Changchun .....   | 1.663 „                                                    | 1.150 „                                                                | 1.045 „                                                      |
| Kirin .....       | —                                                          | 1.150 „                                                                | 1.050 „                                                      |
| Shuangchengpu ... | —                                                          | 1.140 „                                                                | 1.045 „                                                      |
| Ningan .....      | 1.886 „                                                    | 1.147 „                                                                | 1.032 „                                                      |
| Suihua .....      | —                                                          | 1.180 „                                                                | 1.080 „                                                      |
| Ilan .....        | —                                                          | 1.151 „                                                                | 1.045 „                                                      |
|                   | 1 Chinese <i>sheng</i> (升)                                 | 1 Chinese <i>chin</i> (斤)                                              |                                                              |
| Dairen .....      | 1.652 <i>sho</i> (升)                                       | 1.52 <i>kin</i> (斤)                                                    |                                                              |
| Yingkou .....     | { 1.405 (for junk cereals)<br>1.455                        | 1.45                                                                   |                                                              |
| Antung .....      | 1.75                                                       | 1.55                                                                   |                                                              |
| Fengtien (Mukden) | { 1.300<br>1.342                                           | 1.488                                                                  |                                                              |
| Kaiyuan.....      | 1.52                                                       | 1.56                                                                   |                                                              |
| Liaoyang .....    | 1.919                                                      | 1.419                                                                  |                                                              |
| Changchun .....   | 1.630                                                      | 1.472                                                                  |                                                              |
| Kirin .....       | 1.280                                                      | 1.530                                                                  |                                                              |
| Shuangchengpu ... | 1.530                                                      | 1.390                                                                  |                                                              |
| Ningan .....      | 2.059                                                      | 1.470                                                                  |                                                              |
| Suihua .....      | 1.400                                                      | 1.360                                                                  |                                                              |
| Ilan .....        | 1.530                                                      | 1.440                                                                  |                                                              |

SURVEY OF LAND. In all surveys of land in Manchuria, the lineal measure for surveys and timber above mentioned is used. 5 *chih* square is called 1 *kung* (弓), and 240 *kung*, 288 *kung*, and 360 *kung* make 1 *mow* (畝) according to different districts, being often called respectively small *mow*, intermediate *mow*, and large *mow*, 6 *mows*, or sometimes 10 *mows* are called 1 *hsiang* (晌). It is said that the *hsiang* of 6 *mows* applies to the old Manchu estates, and that of 10 *mows* to privately owned land. 45 *hsiang* make 1 *fang* (方).

It may be added that the Chinese Government goes by the small *mow* of 240 *kung* and the *hsiang* of 10 *mows*.





























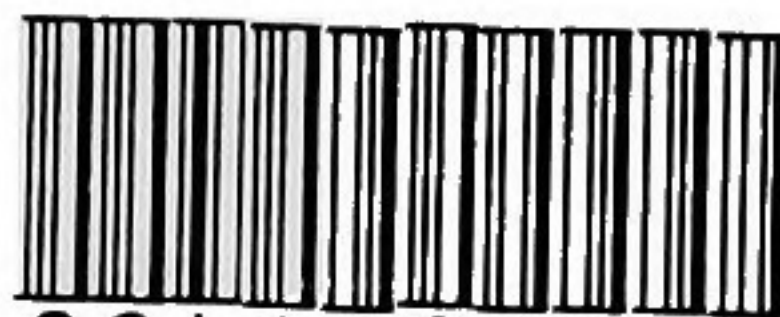


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